

# THE COAST ARTILLERY JOURNAL

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# The United States Coast Artillery Association



## Announcement

ON February 23 the President of the United States signed the Army Appropriation Act for the Fiscal Year 1931-32 which contained the following amendment:

“No appropriation for the pay of the Army shall be available for the pay of any officer or enlisted man on the active list of the Army who is engaged in any manner with any publication which is or may be issued by or for any branch or organization of the Army or military association in which officers or enlisted men have membership and which carries paid advertising of firms doing business with the Government: Provided, however, That nothing herein contained shall be construed to prohibit officers from writing or disseminating articles in accordance with regulations issued by the Secretary of War.”

The effect of this amendment was an immediate and staggering blow to the announced policy of the Association for the betterment and development of its official organ—the COAST ARTILLERY JOURNAL.

The Executive Council of the Association met and considered various plans to meet the situation and to enable the Journal to continue along the lines indicated by the first two numbers of the present year.

It was proposed to continue the Journal under the editorship of a retired officer without eliminating paid advertising from its contents. It was also proposed to continue as a monthly publication with an officer of the active list as editor, eliminating paid advertising. Other variations of these plans were considered and rejected due to impracticability from a financial viewpoint.

In addition to the financial consideration which the Council gave to the situation the amendment was also considered with a view to determining the *intent* of Congress in inserting this amendment in the Army Appropriation Act. The Council does not believe that the amendment was designed to remove the service journals from the field of publications but to eliminate them from the advertising field. This Association will conform to the will of Congress as expressed in legislation without violating either the letter or *spirit* of the law. The purposes of the Association as written into its Constitution are inconsistent with any petty spirit of resentment or evasion which might arise. Therefore the Council confined its deliberations to the consideration of plans which did *not* include the continuation of paid advertising. The plan adopted is as follows:

The COAST ARTILLERY JOURNAL will continue to publish and disseminate professional knowledge to the members of the Coast Artillery Association.

Its present editor will continue on this duty. It will carry no paid advertising.

Due to the elimination of a considerable part of its income it will be necessary to adopt a bi-monthly schedule of publication, at least for the present.

It will continue its affiliation with other service publications as a necessary and important feature of cost reduction.

There will be no change in the format of the Journal nor will a lower quality of material be used in its fabrication.

Its editorial content will be increased beyond that originally contemplated. The quality of editorial content will be materially increased due to reduced frequency of issue.

The Council regrets the necessity of publishing the Journal as a bi-monthly. The loss of its advertising income will interfere seriously with the development program which had been planned for its future. Other means must be found to carry these plans to accomplishment. The COAST ARTILLERY JOURNAL is a vital element in carrying out the mission of the Coast Artillery Association.

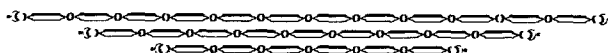
Members of the Association have never been requested to contribute a single cent towards its support, either in the form of dues or otherwise. It was intended that the Journal would furnish the financial support which the Association would need. There is no doubt that the Journal would have been able to assume this obligation with every hope of success. The passage of this law introduces difficulties which are serious but not insurmountable.

The COAST ARTILLERY JOURNAL is still the sole support of the Coast Artillery Association. It is now time for each member of the Association to bring his support to the COAST ARTILLERY JOURNAL. Each Association member should be a subscriber. The Association membership is fast approaching the 3,000 mark. With a subscription list of this same number the Journal will be able to resume its monthly appearance without curtailment in any particular and will enter into a much wider sphere of influence in the interest of the Coast Artillery Association and the ideals which it has set for accomplishment.

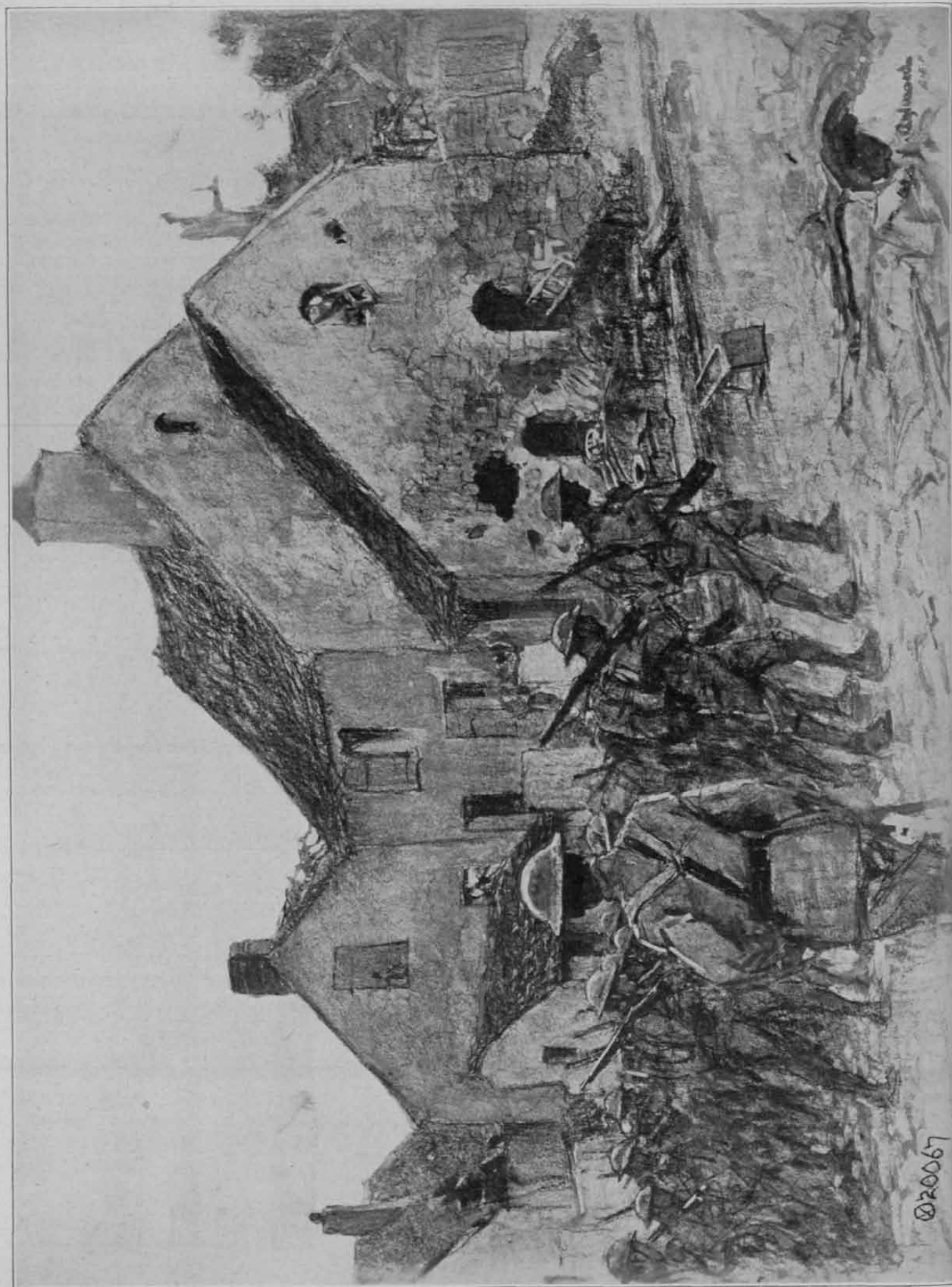
Our members are urged to give this matter their most serious consideration to the end that this much needed support may be brought to the aid of the organ of the Association.

JOS. P. TRACY,

Colonel, Coast Artillery Corps  
Vice President, The United States Coast  
Artillery Association.







020067

W. J. Raynor

# The Organization of an Overseas Defensive Sea Area

*Brig. Gen. C. E. Kilbourne, U. S. A.*

A DEFENSIVE sea area is an area, including the entrance or entrances to a port, organized for defense and for the control of shipping approaching or leaving the harbor. There is an outer limit which incoming vessels are not permitted to pass without identification and an inner limit where the surveillance of the defending forces ceases. Beyond the outer limit the coastal patrol controls—within the inner limit, the port authorities. The plan for a defensive sea area becomes effective on proclamation of the President.

An overseas defensive sea area differs from one in the home land only in the fact that the latter has all the resources of the country to support the defense while the former must depend, in the main, on installations and supplies provided in peace. Errors and oversights in providing personnel and equipment may be capable of remedy in the defense of a home port. Overseas reinforcement and replenishment should not be depended upon until control of the sea is assured at least temporarily, though the submarine of great sailing radius may permit delivery of limited personnel and some essential supplies. This fact demands that the fullest study of probable needs and of such resources as may be made available locally should be required of all overseas commanders.

Defensive sea areas are controlled by joint operations of the Army and Navy. The Naval District Commander provides such vessels as may be available and required; the Army mans the fortifications and land defenses. In general the Navy provides the off shore and inshore patrols. The former obtains and transmits information of hostile fleet movements. The latter intercepts shipping at the limits of the defensive sea area and, if proper, conducts the ships through the mine fields. At night the inshore patrol establishes a cordon with duties analagous to those of an outpost line in land warfare. If there be sufficient vessels to provide an adequate cordon the disadvantages of constant operation of search lights may be avoided an inadequate cordon is of little value. If there be submarines or other suitable vessels available these may assist in combat.

In these operations the closest understanding and co-operation is necessary between land and sea commanders. Each details one or more liaison officers to the other, selected men competent to state the possibilities and limitations of their respective branches under all conditions. Every situation it is possible to anticipate is provided for by mutual agreement. But direct communication between commanders afloat and ashore is a prime essential in order that unexpected

emergencies may be met. A positive system for the identification of friendly vessels by the land defenders, especially at night, is of first importance. The establishment of contract mine fields, their patrol and upkeep is a function of the Navy where the fields are too extensive for the use of the electrically controlled mine.

While the conduct of the defense has changed with the development of armaments, the main mission has remained unchanged since the first installation of projectile throwing devices was established at a harbor entrance. This mission is to prevent the use of the port by an enemy invading by sea. To this mission have been added others, such as protecting the port against bombardment, covering the debouchment of our own fleet and others of minor importance. But if the harbor defenses force the enemy to land on the beach or in some harbor of poor facilities they will have justified their establishment and maintenance.

Normally control is vested in the Army Commander. Should a situation exist where naval operations become of paramount importance, the navy commander controls; such a situation will arise if important fleet operations are based on a defended port or a naval action takes place within range of the land batteries. At such times the resources of the Army are used to support the navy in such manner as the naval commander decides best.

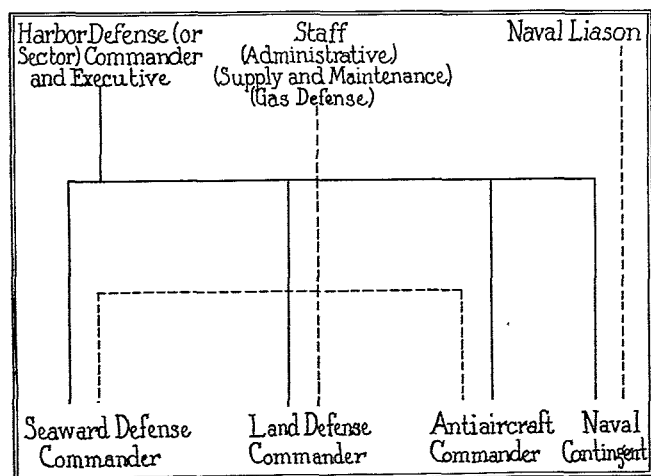
Most of our fortifications have been designed to meet attack from the sea only, and, generally, for comparatively short ranges. They are still effective for this purpose even where the guns are outranged, since all are capable of delivering damaging fire at ranges making the attack of batteries by warships call for expenditures of ammunition in excess of the value of any probable result. There is nothing to indicate that the purely naval attack on fortifications promises greater chance of success in future than in the past; and history shows that landing operations have invariably had to supplement naval attack against a well prepared defense.

Modern developments have introduced two new elements—aircraft and gas. These have complicated harbor defense as they have every form of warfare. The effective gassing of fortifications by shell fire would call for an expenditure of ammunition beyond the amount reasonably to be expected with a fleet prepared also for naval action. And computations of the number of shell required to gas given areas indicates that this form of attack by land forces should not be effective against a defense carefully prepared to meet it. Gassing from the air by bombs and spray, unless prevented or minimized by antiaircraft operations, con-

stitutes a far more serious threat as it permits of greater and better maintained concentrations. A combination of gas and machine gun attack from the air upon the personnel manning our open batteries, simultaneously with a determined effort by a fleet to force the harbor entrance, offers probability of success greater than the defense has had to contemplate in the past. We are all prone to believe that we would hold out regardless of conditions. To visualize the situation it is suggested that the commanders of our forts, especially those with few all-round fire guns and limited anti-aircraft, place themselves in the attitude of an enemy equipped to attack as outlined above; it is believed most will conclude that the attacker is justified in feeling confident.

The defense must therefore be organized against attack by sea, by land and by air, the defense being complicated by the use of gas from any or all of these. The commander must control his own units, must maintain coordinated operations with the navy, and must direct the activities pertaining to supply and maintenance of morale and health of the command. He cannot direct personally all of these. Immediate direction of joint Army and Navy affairs cannot be delegated. It becomes evident therefore, in a defense having the extent normal to our overseas possessions, that there must be one officer charged with seaward defense, one with land defense and one with anti-aircraft defense. Since defense against gas is common to all no subordinate commander can control; a staff officer must do so in the name of the commander of the whole just as matters of supply and hospitalization are controlled. And, since the commander cannot be continually on duty, nor remain always at his command post, he must have an executive competent to act for him in all routine matters as well as in emergencies arising in his absence.

The outline of the organization would then be as follows:



(Note—Solid lines indicate command channels; broken lines contacts for other purposes.)

Where the defense is under a sector commander (other than the harbor defense commander) he may assume complete control of land defense, of anti-air-

craft defense and of joint operations, leaving to the harbor defense commander the seaward defense. Only in case the sector can be completely organized and trained prior to operations is such an organization wise. The immediate defense of the forts against attack of any nature remains, in any event, the responsibility of the fort commanders who are directly responsible to the harbor defense commander. The forts are equipped, in peace, with the means for coordination with the navy and habitually train with this in view. The system of administration, hospitalization and supply (including reserves) is operative in peace. The gas defense should and can be organized and prepared for each fort. The same is true for defense against landing on the beaches of forts; where the forts are on the mainland defense from landward attack becomes a part of larger operations. All in all the writer believes that the commander of a sector including a defensive sea area, would be wise to constitute that sea area a subsector to be controlled by him through the harbor defense commander, at least until developments make a change necessary. A going concern should never be disrupted in an emergency.

As to the seaward defense little need be said. The installations are provided and can be changed at the outbreak of war only to a minor extent. The importance of determining the effective field of fire of each gun and providing for some means of plotting the position of enemy vessels in any navigable waters covered should not need mention; but it is feared that, in our service, it needs not only mention but emphasis.

As to land defense it is a truism that the best defensive position is one that offers a clear field of fire to defenders located in concealed, protected positions. If the strike of artillery and small arms projectiles can be clearly seen the accuracy of fire can be assured. The surface of water offers the clearest field of fire possible, the defenders can entrench in the most favorable positions and the strike of projectiles is plainly visible during daylight or by night if searchlights can be used. Furthermore temporary machine gun nests on the water line, constructed with sand bags at dusk, enable machine gun barrages over final protective lines to be established under the most favorable conditions possible, a principle that may be applied also to small caliber mobile artillery weapons. In brief the best defense against a landing attack contemplates the defeat of the attack before it reaches the beach (front) line, rather than its disorganization during, and its destruction, by counter attack after, penetration. This justifies a greater percentage of the defenders in front line positions. But it should be remembered that the front line may be overwhelmed, and that, once the enemy is ashore, the defense has no advantage other than knowledge of the terrain. Counter-attack groups are essential, and communications for the rapid dissemination of information and for reinforcement equally so. In the defense of overseas positions the installation of works and communications for beach defense, and training

in their use, should be included in each year's program. In land defense it is necessary to emphasize also the importance of plans for control of the fire of seacoast guns on land targets.

As to antiaircraft defense it may be said that what constitutes a sufficiency is conjectural. The World War offers no competent experience to judge of the effectiveness of attack from the air nor of the effectiveness of the ground defense. Each branch has advanced greatly in efficiency since that war. All we can do is prepare the best defense with the equipment given including the training of as many soldiers as time and ammunition permits. It is my opinion that not bombardment with demolition bombs from high altitude but the attack upon personnel by low flying planes, using small bombs, machine guns and gas sprays, offers the most serious threat, and I place an adequate automatic weapon defense higher in importance than anti-aircraft gun defense insofar as concerns the fort itself. This is not true in the defense against bombardment of shipping or other important objectives protected by the forts, and is not intended to minimize the importance of antiaircraft guns; it is mentioned because very rarely have forces been bombarded into surrender, or prevented by bombardment from operating a good percentage of the defensive weapons, while, if the personnel be killed or neutralized, the defense falls.

The organization of fortified positions for gas defense of personnel, of water supply and of foods in storage and during issues, is, in my opinion, one of the most important duties of the present day commander. Commanders can scarcely hope to obtain in peace the installations necessary. This for three reasons: first, we cannot expect our Chemical Warfare Service to approve or recommend anything that may be found inadequate to meet *all* conditions; second, because the installations for an assured defense are so expensive as to prohibit the allotment, during peace, of sufficient funds; and, third, because international agreements disapproving the use of toxic gasses adversely affect appropriations for gas warfare. Commanders in the homeland may secure equipment with reasonable promptness at the outbreak of war. Commanders of overseas defenses, subject to sudden attack and possibly cut off from the homeland, cannot depend upon anyone but themselves. It becomes their duty to examine their system of water and food supply and the possibilities of their permanent installations for collective protection and to study their own resources and those of local markets for the means to install as complete a protection as is possible. If this be done the writer can guarantee that a protection of water, foods, and personnel can be ensured that will

be within the power of the troops to install and will largely remove the dread of gas. There will always be danger and inconvenience but the situation of troops in permanent defenses will be so superior to that of those in the field that there is no comparison. Plans for at least one fort (calling for no issues other than gas masks) are approaching completion. Details cannot be given in an open article but one item may be cited—a filter, (forced draft by office fans) constructed by post personnel and with chemicals obtainable locally, supplied on test, 52 men with ample purified air. Also it may be said that the solution of the problem of pure water and foods proved to be very simple. The bulk of the plans is very great; divided so that each officer prepares them only for the elements for which he is responsible, the task in a fort actively manned is not heavy.

No comment is made as to Air Corps operations in the defensive sea area. Units of this arm will normally be controlled by higher commanders, who will furnish the commander of the defensive sea area with information obtained. Their reconnaissances, when made will extend those of the off shore patrols. Bombing operations will normally be beyond the defensive sea area; if within that area, they will probably be in pursuance of general instructions and not under control of the local commander. Such planes as may be assigned the commander of the defensive sea area may be utilized for reconnaissance, for control of artillery fire and for the attack of enemy vessels; with reference to the last, the attack of vessels engaged in covering fleet movements by smoke screens is probably the most important service that can be rendered.

Throughout the organization distribution of duties and responsibilities should be made so that no senior personnally takes charge of any activity that a subordinate can be trained to carry on. It is the opinion of the writer that an officers capacity to command may be judged by the extent to which he delegates duties and responsibilities to subordinates and requires results of them. In no way, save by utilizing the initiative, intelligence and pride of accomplishment of subordinates, can balanced progress in all activities be hoped for. Better have poor results (at least in peace) where each echelon and branch fulfills its allotted part, than a perfect result where all is directed by a few experts while the bulk of this command is idle or employed only mechanically. The poor results will improve with each task and a command in which each subordinate is habitually expected to perform his part to the best of his capacity will not only be better prepared for war but also will eventually do better in peace.

# Battery I Wins the Knox Trophy

By Capt. Ben Bowering, 4th CA

EDITOR'S NOTE: Each year the Editor of the COAST ARTILLERY JOURNAL asks the battery commander whose organization has been awarded the Knox Trophy to write an article describing how it was accomplished. It is remarkable how little the battery commanders who won Knox Trophies know about firing a battery. Nearly all say that "the usual methods were used" or that "there was nothing out of the ordinary about the preparations for the practice." In examining the articles, however, we find such expressions as "almost daily analysis of drill was held," "the spotting section observed during the practices of other batteries," "a keen spirit of rivalry existed between the gun crews," "the primers were baked for a month," and "there was no last minute rushing around." These remarks are an indication that there must have been, at least, some intelligent planning prior to the practice and that some measures must have been taken to obtain and hold the interest of the enlisted men. There can be no team work without interest.

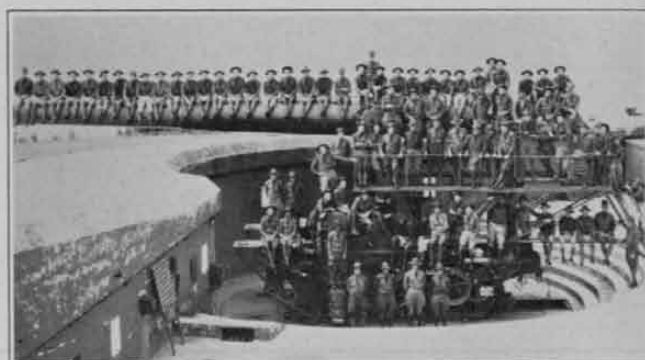
It is refreshing to note the tribute paid to Sergeant Fern. In our editorial capacity our first inclination was to blue pencil this paragraph. It is all well enough to include these commendatory remarks in the retirement order but why mention them when speaking of a target practice? On second thought it occurred to us that perhaps the last paragraph of this article has a great deal to do with the subject. All of us appreciate the sterling qualities of non-coms of Sergeant Fern's type. The Coast Artillery is blessed with a great number of them. Perhaps we should mention their accomplishments more audibly.

I HAVE been asked to write a few words about Battery I's target practice fired on November 19, 1929, for which it was awarded the Knox Trophy, but, to tell the truth, there is very little to write about, for if there was one thing that characterized the practice from beginning to end, that one thing was simplicity. Being a firm believer in that very sound principle that when things are going along smoothly to let well enough alone, I could see no reason for making any changes in the organization of Battery I when I took it over about five months before the shoot. In fact, I feel sure that the former battery commander with the same good fortune as regards "old man probability" would have fared as well as myself.

For the benefit of those who are not familiar with Panama, Battery I, 4th Coast Artillery, mans Battery Warren, 2-14 inch disappearing guns, 289 feet above sea level and overlooking the Pacific entrance to the Canal. There is no need to go into a detailed description of the fire control installation for no "gadgets" of any kind were used; not that I have any particular objection to "gadgets" but I believed that under the circumstances, the standard equipment furnished was adequate. A 110-degree plotting board was used simply because my plotter preferred it. He had his choice between that and a Cloke board.

The spotting system used was the modified Gray, which employs two fine wires intersecting above a gun arm on an improvised spotting board. Each wire and the arm were offset from a reference point, at the approximate position of the set-forward point, to the deflections observed by the three spotters.

Inasmuch as the time of flight was almost identical with the firing interval, gun pointers were not allowed



Battery I on 14-Inch Gun, Battery Warren

to jump splashes, but each had a headset and corrections in deflection were sent to them from the B. C. station which was also the directing point of the battery.

I firmly believe that when a practice is to commence, the battery commander should then be a free man, able to go wherever he might be needed and not tied down to any one spot on account of some duty he may have assigned himself. With that idea in mind I attempted to make no corrections in range myself as the result of observation of fire but left that up to my range officer, 2nd Lt. "Mickey" McGuire. That he performed his duties well is apparent from the results obtained.

A few words now concerning the methods used in training the battery. For a month prior to the practice almost daily analysis of drill was held and personnel errors were reduced to a minimum. Team work was emphasized from the beginning and no stone was left unturned in the effort to discover any weak links in the chain. The spotting section took advantage of every other practice held prior to ours and received valuable training thereby. Frequent subcaliber practices were held and during all of these, service conditions were simulated as closely as possible. A rehearsal of practice was held the day before the shoot at which the same number of shots were simulated as in service practice, all records being kept and operations performed in the same manner as prescribed for the practice. The Harbor Defense Commander and all designated officers were present at this rehearsal and after observing the battery function the Commanding Officer announced that he was satisfied it was ready to proceed with service practice.

One of the most interesting phases of the training period was the intense rivalry which developed between the two gun crews. A chart was prepared with the drill days along one ordinate and the times of serving the piece along the other. Points on the curve (a curve for each gun) were plotted after each drill day. Several tests being made and a mean time taken for



each gun for the drill. These curves were kept posted in the day room where the men could inspect them and a very keen but friendly rivalry between the gun crews was evident from the start. The effect of this training showed in the practice, for the times of both guns were practically the same and there was never the semblance of a hitch in the service of either piece. Our objective was a shot per gun every 30 seconds; the time per gun actually made was 30.5 seconds.

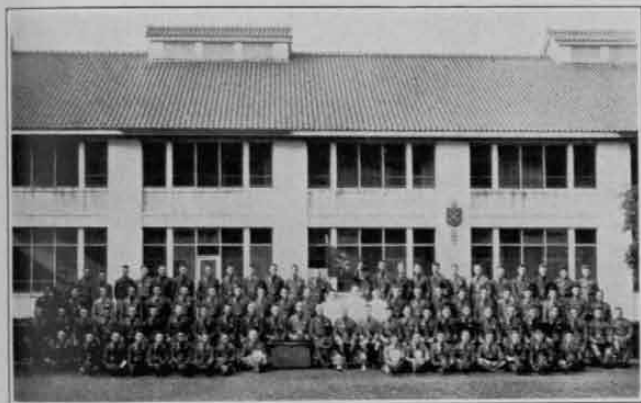
With reference to checks made on orientation data and materiel, of course the coordinates of all stations and datum points used were verified and then all D. P. F.'s azimuth and observing instruments used were checked and oriented daily on data which had previously been verified. All equipment used in the plotting room was checked for adjustment at the beginning of each drill and extra head sets were always on hand at the battery and various stations to be installed at a moment's notice in case of communication difficulties along that line. Powder assigned for use was in bulk

knew it and only wanted a chance to prove it. So when the gods of fortune willed that "probability" should be on our side that day, the battery was prepared and did not miff the chance.

The average range fired was about 16,000 yds. and firing was by Case II. As for other high lights of the practice, I can do no better than to quote from C. A. Memorandum No. 10, Office of the Chief of Coast Artillery.

- (1) Time of trial fire, 2 min. 45 sec.
- (2) Time between trial and record fire, 3 min. 35 sec.
- (3) Average time per round, record fire, 30.5 sec.
- (4) No time out.
- (5) D. A. P. E., 72.8 yds.
- (6) Three of the four salvos were bracketing.
- (7) Hits: Broadside, 3; bow-on, 4.
- (8) Spotting operations consumed less than 5 seconds per shot.
- (9) Average range personnel error, 9 yds.

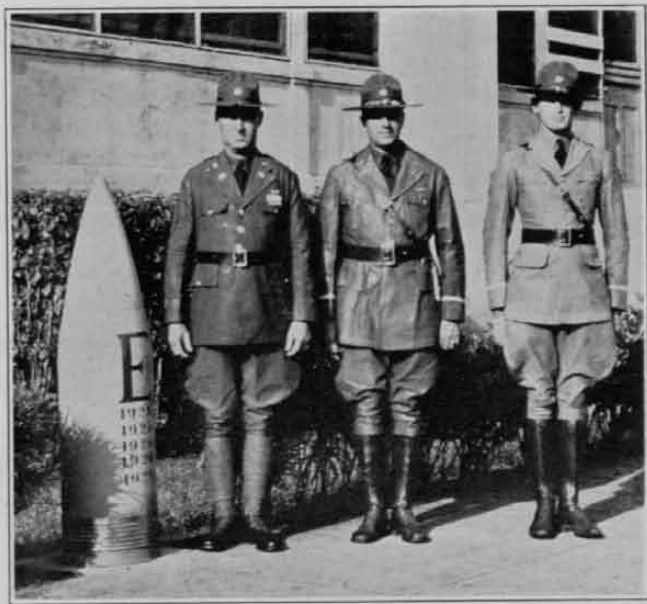
And now in closing, I am sure I voice the sentiment of every man in my battery as well as that of the many former battery commanders of Battery I, when I pay tribute to the man whom I consider to have had more to do with the remarkable record which the battery has made in recent years than any other one man. A man who started as a recruit more than 28 years ago with the battery and has never served with any other organization during his entire term of service. He was 1st Sergeant of Battery I (then 6th Co., Balboa) when it won the Knox Trophy in 1917 and he was 1st Sergeant of the battery when it again won the Trophy in 1930. I refer to 1st Sergeant John F. Fern. He retires in about one year and the service is going to miss him much, for I am afraid that the mold from which John Fern was made has been destroyed.



Battery I in Front of Its Quarters at Fort Amador, C. Z.

form so there was no other alternative than to blend. Few bags were furnished and great care was exercised in the preparation of the charges with especial reference to proper weight, length and diameter. Projectiles were carefully weighed and brought to within one pound of standard weight.

The fact that no "time out" was necessary I believe can be directly attributed to the extreme care with which the armament was inspected prior to the practice. The smallest defects were corrected as soon as noted and primers were fired electrically at each drill. Incidentally, the primers used in the practice were "baked" in a dry closet at the Ordnance store house for a month prior to the shoot and all were tested for continuity of circuit and were inserted in the primer seat to test the length of the button wire. There was no last minute rush to get a machine to go over the materiel. This was all done early in the game and then daily inspections and tests made to see that everything was in working order. The result was that when the time came for the practice there was no excitement of any kind; no last minute running around and shouting of orders; every man knew his job, knew that he



1st Sgt. Fern, Capt. Bowering, Lieut. McGuire

# The Cost of the National Guard

Colonel William H. Waldron, Executive Officer, Militia Bureau

*DO YOU KNOW how much money the Federal Government puts into the National Guard each year? How much money the States provide? How much it costs each citizen to maintain his National Guard for a year, and what he gets for his money? What projects are included in the Militia Bureau's federal appropriation? What the per capita cost of a National Guardsman is?*

*All of these interesting questions are answered in this article. Other articles to follow will furnish similar vital and little-known information about the National Guard.—EDITOR.*

**T**HE cost of the National Guard is the sum total of the money that is expended on that component of the Army of the United States. The following summary shows what it is and whence it comes:

|                                                                                                                            |                 |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|
| Federal appropriations for the fiscal year 1931 (and a like amount for the fiscal year 1932) .....                         | \$32,909,142.00 |
| State appropriations for the fiscal year ending June 30, 1930, which is the latest date for which data are available ..... | 15,037,008.70   |
| Rental of armories and from private sources (estimated) .....                                                              | 2,000,000.00    |
| Total .....                                                                                                                | \$49,511,806.70 |

Table No. 1, which accompanies this article, gives the details of the distribution of all of these funds, both federal and state. In this table Column 2 shows the allocated enlisted strength of the National Guard to the States. In the past this has been somewhat erroneously referred to as the authorized strength, but there is no such thing, except that imposed by the limitation of funds for the support of the National Guard.

In Column 3 appears the amount of federal aid apportioned to the States by the Militia Bureau. It will be noted that in this there is a considerable variation. This is due to the kind of military organizations maintained by the States. In the States that have large mounted organizations the costs in animal caretakers and forage make a considerable item. The nineteen States that maintain aerial observation squadrons also have their allotments increased to meet the heavy expenses incident to such an organization.

The funds provided by each State for the support of the National Guard appear in Column 4. Here also there is a wide variation, which ranges all the way from the State that meets the federal aid with a like amount, down to the one which provides only a small percentage. A complete comparison may be arrived at by considering Columns 5 and 6 together. Here the range extends from the States of Connecticut, New Jersey, and Illinois, which supply more funds per capita than does the National Government, down to Nevada and Georgia which supply only small proportions.

Column 9 shows the per capita cost of the National Guardsman, considering both federal and state expenditures. It is not possible to pro rate the \$2,000,000 derived from armory rentals and add it to these figures, so it is disregarded entirely.

Now all of this makes it appear that the National Guard costs a mighty lot of money—and it does. But when you take a one-cent lead pencil and calculate it all out, the figures are not so appalling as they seem at first impression. Let us try it. There are about 122,000,000 people in the United States. Figuring the cost of the National Guard on a country-wide per capita basis, we find that your individual share is just a little over 40 cents. In other words, it costs the people of the United States about 40 cents a year each to maintain their National Guard.

What do you get for your 40 cents. In the first place, you have a splendidly organized and equipped force of 190,000 citizen soldiers who are well trained and who stand ready to step into the breach when the situation is such that it cannot be handled by the constituted civil authorities. This may take the form of a disaster to a community in which the elements play a part—flood, fire, tornado, or wreck. Or, it may assume the nature of a disorder, which if unchecked may develop into a riot with an angry and uncontrollable mob, bent upon the destruction of life and property. You may say that yours is a peaceful community and that you have never needed and are not likely to need the services of the National Guard for this latter purpose. The chances are that you are correct, but you are correct because of the very fact that there is a force whose moral influence makes itself felt up and down the land. Those persons who would transgress the rights of others are deterred simply because they know that they cannot “get away with it.” They know that the National Guard is a body of loyal citizen soldiers who stand ready on call to back up the legally constituted authorities, to help them in upholding the dignity of the State, and to protect your life and your property.

In the second place, the National Guard is the citizen soldiery elements of the national defense. It is organized into 18 combat divisions, nine cavalry brigades, and certain essential corps, army, and GHQ troops. All of these are equipped for peace strength and are prepared to take their places in any military force that may be called into service in case of national emergency.

In Column 7 of Table No. 1 you will find the total amount of money devoted to the maintenance of the National Guard in the several States. These funds are distributed under the various Militia Bureau projects indicated in Table No. 2. Those of you who are in the National Guard and those who engage in activities that have to do with the supply of the National

Guard receive a proportionate share of the money included in the disbursement of these funds. In other words, all of this money goes into the trade channels of the country and is distributed over the United States in such a way that hundreds of thousands of the people receive direct or indirect benefit from it.

You have in your communities hundreds of national guard armories that are made available for a variety of civic purposes. In many places the armory is the only place available for large assemblies.

It is interesting to note the extent to which the States support their National Guard in proportion to what the federal Government does. The following tabulation shows this with the States arranged in order on a percentage basis:

|               |     |                |     |
|---------------|-----|----------------|-----|
| 1. Conn. .... | 59% | 4. Vt. ....    | 46% |
| 2. N. J. .... | 55% | 5. N. H. ....  | 45% |
| 3. Ill. ....  | 53% | 6. Penna. .... | 44% |

|                 |     |                |     |
|-----------------|-----|----------------|-----|
| 7. H. T. ....   | 42% | 29. Kans. .... | 23% |
| 8. Ariz. ....   | 41% | 30. N. C. .... | 23% |
| 9. W. Va. ....  | 41% | 31. Ky. ....   | 22% |
| 10. N. Y. ....  | 41% | 32. Del. ....  | 21% |
| 11. Calif. .... | 36% | 33. Okla. .... | 20% |
| 12. Mass. ....  | 36% | 34. N. D. .... | 19% |
| 13. Wyo. ....   | 36% | 35. P. R. .... | 18% |
| 14. Ind. ....   | 31% | 36. Utah ....  | 18% |
| 15. Md. ....    | 30% | 37. Ore. ....  | 17% |
| 16. D. C. ....  | 29% | 38. S. C. .... | 17% |
| 17. Iowa ....   | 29% | 39. Tex. ....  | 17% |
| 18. Minn. ....  | 29% | 40. Mont. .... | 16% |
| 19. Ohio ....   | 29% | 41. Tenn. .... | 15% |
| 20. Ark. ....   | 28% | 42. Va. ....   | 15% |
| 21. Mich. ....  | 27% | 43. La. ....   | 14% |
| 22. R. I. ....  | 27% | 44. Mo. ....   | 14% |
| 23. Maine ....  | 26% | 45. N. M. .... | 14% |
| 24. Wash. ....  | 26% | 46. Ala. ....  | 13% |
| 25. Colo. ....  | 25% | 47. Miss. .... | 13% |
| 26. Wis. ....   | 25% | 48. Idaho .... | 11% |
| 27. Nebr. ....  | 24% | 49. S. D. .... | 11% |
| 28. Fla. ....   | 23% | 50. Nev. ....  | 9%  |
|                 |     | 51. Ga. ....   | 7%  |

TABLE No. 1

A Table Showing the Federal and State Appropriations for the Support of the National Guard, Fiscal Year, 1930.

| State                   | Enlisted Strength of National Guard, June 30, 1930, Including W. O's. | Amount of Federal Aid Apportioned | State Appropriations | Amount per capita per National Guardsman |         | Appropriated by Federal and State Governments | Total Amount per capita per National Guardsman |
|-------------------------|-----------------------------------------------------------------------|-----------------------------------|----------------------|------------------------------------------|---------|-----------------------------------------------|------------------------------------------------|
|                         |                                                                       |                                   |                      | Federal                                  | State   |                                               |                                                |
| 1                       | 2                                                                     | 3                                 | 4                    | 5                                        | 6       | 7                                             | 8                                              |
| Alabama                 | 2,445                                                                 | \$607,216.82                      | \$94,000.00          | \$248.35                                 | \$38.45 | \$701,216.82                                  | \$286.80                                       |
| Arizona                 | 1,073                                                                 | 150,045.08                        | 104,632.00           | 139.84                                   | 97.51   | 254,677.03                                    | 237.35                                         |
| Arkansas                | 2,027                                                                 | 397,090.81                        | 157,500.00           | 195.90                                   | 77.70   | 554,590.81                                    | 273.60                                         |
| California              | 5,870                                                                 | 940,323.36                        | 538,106.51           | 160.19                                   | 91.67   | 1,478,429.87                                  | 251.86                                         |
| Colorado                | 1,647                                                                 | 387,990.98                        | 113,640.87           | 205.22                                   | 69.00   | 451,631.85                                    | 274.21                                         |
| Connecticut             | 3,891                                                                 | 685,050.95                        | 976,413.27           | 176.06                                   | 250.94  | 1,661,464.22                                  | 427.00                                         |
| Delaware                | 758                                                                   | 122,419.40                        | 31,700.00            | 161.50                                   | 41.82   | 154,119.40                                    | 203.32                                         |
| District of Columbia    | 922                                                                   | 141,786.32                        | 57,827.00            | 153.78                                   | 62.72   | 199,613.32                                    | 216.50                                         |
| Florida                 | 2,269                                                                 | 435,283.59                        | 127,277.73           | 191.84                                   | 56.09   | 562,561.32                                    | 247.93                                         |
| Georgia                 | 3,365                                                                 | 530,536.47                        | 40,000.00            | 157.66                                   | 11.89   | 570,536.47                                    | 169.55                                         |
| Hawaii                  | 1,549                                                                 | 183,587.90                        | 130,274.77           | 118.52                                   | 84.10   | 313,862.67                                    | 202.62                                         |
| Idaho                   | 1,163                                                                 | 263,644.37                        | 33,100.00            | 226.69                                   | 29.46   | 296,744.37                                    | 255.15                                         |
| Illinois                | 9,317                                                                 | 1,453,137.91                      | 1,650,111.00         | 155.97                                   | 177.11  | 3,103,248.91                                  | 333.08                                         |
| Indiana                 | 4,326                                                                 | 746,735.74                        | 337,000.00           | 172.63                                   | 77.90   | 1,083,735.74                                  | 250.53                                         |
| Iowa                    | 3,269                                                                 | 548,757.02                        | 221,378.00           | 167.87                                   | 67.72   | 770,135.02                                    | 235.59                                         |
| Kansas                  | 2,868                                                                 | 616,369.99                        | 179,800.00           | 214.91                                   | 69.69   | 796,169.99                                    | 277.60                                         |
| Kentucky                | 2,571                                                                 | 454,043.27                        | 126,454.81           | 176.60                                   | 49.18   | 586,498.06                                    | 225.78                                         |
| Louisiana               | 1,840                                                                 | 378,400.94                        | 63,520.00            | 205.65                                   | 34.52   | 441,920.94                                    | 240.17                                         |
| Maine                   | 2,182                                                                 | 358,230.08                        | 122,761.72           | 164.18                                   | 56.26   | 480,991.80                                    | 220.44                                         |
| Maryland                | 2,905                                                                 | 567,622.11                        | 240,850.00           | 189.52                                   | 80.42   | 808,472.11                                    | 269.94                                         |
| Massachusetts           | 9,009                                                                 | 1,575,954.13                      | 892,922.98           | 174.93                                   | 99.11   | 2,468,877.11                                  | 274.05                                         |
| Michigan                | 4,259                                                                 | 759,946.46                        | 284,500.02           | 177.13                                   | 66.33   | 1,044,446.48                                  | 243.52                                         |
| Minnesota               | 4,604                                                                 | 945,847.39                        | 378,428.70           | 205.44                                   | 82.70   | 1,324,276.09                                  | 287.64                                         |
| Mississippi             | 1,523                                                                 | 278,999.33                        | 40,000.00            | 183.19                                   | 26.26   | 318,999.33                                    | 209.45                                         |
| Missouri                | 4,128                                                                 | 776,937.34                        | 129,089.56           | 188.21                                   | 31.27   | 906,026.90                                    | 219.48                                         |
| Montana                 | 1,050                                                                 | 139,792.84                        | 26,155.91            | 153.14                                   | 24.91   | 165,948.75                                    | 158.05                                         |
| Nebraska                | 1,558                                                                 | 231,596.83                        | 73,132.00            | 148.63                                   | 46.94   | 304,730.83                                    | 195.59                                         |
| Nevada                  | 109                                                                   | 24,831.53                         | 2,350.00             | 228.27                                   | 21.56   | 27,231.53                                     | 249.83                                         |
| New Hampshire           | 977                                                                   | 171,905.25                        | 141,175.00           | 175.95                                   | 144.49  | 313,080.25                                    | 320.45                                         |
| New Jersey              | 4,319                                                                 | 828,534.76                        | 992,666.96           | 191.83                                   | 229.84  | 1,821,201.72                                  | 421.67                                         |
| New Mexico              | 902                                                                   | 268,164.60                        | 42,500.00            | 297.30                                   | 47.12   | 310,664.60                                    | 344.42                                         |
| New York                | 19,774                                                                | 3,391,467.63                      | 2,363,524.02         | 171.51                                   | 119.53  | 5,754,991.65                                  | 291.04                                         |
| North Carolina          | 3,062                                                                 | 537,342.00                        | 157,300.00           | 173.78                                   | 50.87   | 694,642.00                                    | 224.66                                         |
| North Dakota            | 1,072                                                                 | 151,234.26                        | 35,000.00            | 141.08                                   | 32.65   | 186,234.26                                    | 173.73                                         |
| Ohio                    | 7,791                                                                 | 1,433,843.88                      | 575,939.40           | 184.04                                   | 73.92   | 2,009,783.28                                  | 257.96                                         |
| Oklahoma                | 4,616                                                                 | 877,466.32                        | 215,015.04           | 190.09                                   | 46.58   | 1,092,481.36                                  | 236.67                                         |
| Oregon                  | 2,852                                                                 | 529,850.93                        | 112,079.43           | 185.78                                   | 39.30   | 641,930.36                                    | 226.06                                         |
| Pennsylvania            | 10,687                                                                | 2,107,350.23                      | 1,638,686.31*        | 197.19                                   | 153.33  | 3,745,936.54                                  | 350.51                                         |
| Porto Rico              | 1,422                                                                 | 190,024.49                        | 42,000.00            | 133.63                                   | 29.54   | 232,024.49                                    | 163.17                                         |
| Rhode Island            | 1,665                                                                 | 350,734.93                        | 128,410.17           | 206.92                                   | 75.76   | 479,145.10                                    | 282.68                                         |
| South Carolina          | 1,988                                                                 | 312,519.84                        | 63,850.68            | 157.20                                   | 32.12   | 376,370.52                                    | 189.32                                         |
| South Dakota            | 1,233                                                                 | 212,727.41                        | 27,500.00            | 172.53                                   | 22.30   | 240,227.41                                    | 194.83                                         |
| Tennessee               | 2,289                                                                 | 499,004.83                        | 86,700.00*           | 218.00                                   | 37.88   | 585,704.83                                    | 255.88                                         |
| Texas                   | 7,339                                                                 | 1,524,468.37                      | 301,409.13           | 207.72                                   | 41.07   | 1,825,877.50                                  | 248.79                                         |
| Utah                    | 1,264                                                                 | 283,330.84                        | 63,790.84            | 224.15                                   | 50.47   | 347,121.68                                    | 274.62                                         |
| Vermont                 | 1,108                                                                 | 142,061.24                        | 119,190.40           | 128.21                                   | 107.57  | 261,251.64                                    | 235.79                                         |
| Virginia                | 3,527                                                                 | 607,348.88                        | 110,343.02           | 172.20                                   | 31.29   | 717,691.90                                    | 203.49                                         |
| Washington              | 2,466                                                                 | 534,433.13                        | 191,081.45           | 216.72                                   | 77.49   | 725,514.58                                    | 294.21                                         |
| West Virginia           | 1,864                                                                 | 205,965.68                        | 141,500.00           | 110.50                                   | 75.91   | 347,465.68                                    | 186.41                                         |
| Wisconsin               | 4,517                                                                 | 706,699.12                        | 220,000.00           | 156.45                                   | 50.92   | 938,699.12                                    | 207.37                                         |
| Wyoming                 | 572                                                                   | 150,374.14                        | 34,520.00            | 262.89                                   | 147.76  | 234,894.14                                    | 410.65                                         |
| Unallotted <sup>1</sup> |                                                                       | 1,757,531.56                      |                      |                                          |         | 1,757,531.56                                  |                                                |
| Total                   | 169,983                                                               | \$32,426,675.23                   | \$15,057,008.70*     |                                          |         | \$47,483,683.93                               |                                                |

\* No information furnished; estimated from 1929 report. Distribution among items estimated by Militia Bureau.

<sup>1</sup> Unallotted includes approximately \$1,233,820.45 allotted to Quartermaster General for manufacture of new uniforms.

<sup>2</sup> Does not include approximately \$2,000,000.00 derived by organizations from rental of armories and other private sources.

<sup>3</sup> Average per capita from Federal appropriations based on enlisted strength as of June 30, 1930—\$190.76.

<sup>4</sup> Average per capita from State appropriations—\$38.46.

<sup>5</sup> Average per capita from Federal and State appropriations—\$279.23.



You will be further interested to know what becomes of the money appropriated by Congress for the support of the National Guard. This money is included in three major activities under which there are a total of 43 projects. All of this is shown in Table No. 2, which will give you an idea of the wide variety of the activities of the National Guard.

The initial estimates for the funds included in the appropriation bills have to be made up nearly two years in advance of the date when these funds are made available. During such an extended period of time, conditions may change appreciably and the Militia Bureau might find it uneconomical and unwise to adhere to the exact amounts which were appropriated for specific project. To meet this situation, Congress provides for a ten per cent interchangeability among the items, those under Arms, Uniforms, and Equipment, and the Chief of the Militia Bureau can make these changes with the approval of the Secretary of War. This gives considerable flexibility in the handling of funds. The transfer of funds among the projects under the item Arms, Uniforms, and Equipment may be made to the extent desired.

TABLE No. 2

A Table Showing the Federal Appropriation for the Support of the National Guard, During the Fiscal Year 1932.

| Project No.                                              | Sub-appropriation                                            | 1932         |
|----------------------------------------------------------|--------------------------------------------------------------|--------------|
| <i>Arming, Equipping and Training the National Guard</i> |                                                              |              |
| 1                                                        | Forage, bedding, etc. ....                                   | \$ 1,255,707 |
| 2                                                        | Employment of caretakers ..                                  | 2,428,553    |
| Camps of Instruction:                                    |                                                              |              |
| 3                                                        | Field Training .....                                         | 9,129,550    |
| 4                                                        | CP Exercises ..                                              | 15,915       |
| 5                                                        | Construction and maintenance of current camps .....          | 66,667       |
| 6                                                        | Continuation of construction work on camp sites .....        | 100,000      |
| 7                                                        | Upkeep of National Guard camps .....                         | 150,000      |
| 8                                                        | Military Service Schools .....                               | 375,000      |
| 9                                                        | Property and Disbursing Officers for the United States ..... | 79,800       |

## General Expenses:—

|                                  |                                                                                  |          |
|----------------------------------|----------------------------------------------------------------------------------|----------|
| 10                               | Pay, Chief, Militia Bureau, on duty in the Bureau .....                          | \$29,722 |
| 11                               | Wages of range keepers .....                                                     | 43,660   |
| 12                               | Rental of target ranges .....                                                    | 50,908   |
| 13                               | Construction work on target ranges .....                                         | 15,000   |
| 14                               | Repair work on target ranges .....                                               | 30,000   |
| 15                               | Repair and renovation of clothing and individual equipment .....                 | 149,629  |
| 16                               | Repair, organizational equipment .....                                           | 88,017   |
| 17                               | Gasoline and oil, etc., for armory training ..                                   | 157,605  |
| 18                               | Publications, stationery, etc. ....                                              | 50,000   |
| 19                               | Intra-state transportation of supplies and equipment .....                       | 49,008   |
| 20                               | Pay and hospitalization of Air Corps personnel injured during armory drill ..... | 5,000    |
| 21                               | Miscellaneous expenses .....                                                     | 5,000    |
| 22                               | Correspondence courses .....                                                     | 2,500    |
| 30                               | Pay, etc., for officers, N. G. A. C. ....                                        | 19,920   |
| Travel, Regular Army personnel:— |                                                                                  |          |
| 23                               | Visits of instruction .....                                                      | 185,000  |
| 24                               | Camps of instruction .....                                                       | 82,469   |
| 25                               | Changes of station .....                                                         | 20,000   |
| 26                               | Miscellaneous, Corps Areas and Departments ..                                    | 45,000   |
| 27                               | Officers on duty in War Department .....                                         | 5,000    |
| 28                               | Transportation of equipment and supplies .....                                   | 225,000  |
| 29                               | Expenses, sergeants instructor .....                                             | 480,000  |

Total, "Arming, Equipping and Training the N. G." .....\$15,339,630

*Armory Drill Pay*

|   |                        |              |
|---|------------------------|--------------|
| 1 | Armory Drill Pay ..... | \$11,632,368 |
|---|------------------------|--------------|

*Arms, Uniforms, Equipment, Etc., for Field Service, National Guard*

|    |                                                        |            |
|----|--------------------------------------------------------|------------|
| 1  | Articles of the uniform .....                          | \$ 951,231 |
| 2  | QM Motor Equipment, supplies and repairs ..            | 202,919    |
| 3  | Musical instruments, supplies and repairs ..           | 74,980     |
| 4  | Miscellaneous QM equipment, supplies and repairs ..... | 219,000    |
| 5  | Ammunition for the National Guard .....                | 2,246,531  |
| 6  | CWS equipment, supplies and repairs .....              | 36,900     |
| 7  | Ordnance equipment, supplies and repairs ....          | 600,000    |
| 8  | Procurement of airplanes .....                         | 884,185    |
| 9  | Air Corps equipment, supplies and repairs ....         | 504,635    |
| 10 | Signal Corps equipment, supplies and repairs ..        | 138,802    |
| 11 | Engineer equipment, supplies and repairs ....          | 22,636     |
| 12 | Medical equipment, supplies and repairs .....          | 55,325     |
| 13 | Procurement of animals .....                           | .....      |

Total, "Arms, Uniforms, Equipment, etc." \$ 5,937,144  
Grand Total .....\$32,909,142

# National Defense and Transportation

*L. F. Loree, President, The Delaware and Hudson Company*

COMPLYING with the request of your Editor. I am glad to submit my views as to National Defense with the modesty that should distinguish the non-professional.

Without a number of adequate alternative routes of transport from our great producing interior to our seaboard cities and industrial areas, any talk of the United States being adequately prepared for national defense is idle.

As Grant knew, as Napoleon said, "An army moves on its belly." More of sentiment attaches to the fighting front, but a great general always has his eye on the system of transport behind the lines.

Under the protection of the allied navy in the World War, the greatest army ever transported across the seas was maintained by the service of supplies on a front over 3,500 miles from its base. And this same service of supplies was itself provided with plans for trebling that gigantic organization and keeping it supplied with food and ammunition to be expended in quantities never before dreamed of. But could we duplicate this feat within our own borders if our territory were invaded by a powerful, enterprising and intelligent foe? Let us face the facts.

Our first line of defense is, of course, our navy. For the defense of the Gulf of Mexico and the eastern end of the Panama Canal, a naval base has been established at Guantanamo, Cuba. For the defense of our North Atlantic Coast, we have the naval bases at Norfolk, Virginia; Newport, Rhode Island, and New York Harbor. Let us hope and even presume that Congress will provide for their adequacy and for the sufficiency of the Navy itself.

Supplementing the ocean as the great natural highway of the Navy, there should be inland waterway communication between Norfolk and Boston. A beginning has been made in this direction. The Federal Government now owns the Cape Cod Canal, about 8 miles long, and with a navigable depth of 25 feet; the Chesapeake and Delaware Canal, about 14 miles long, and with a navigable depth of 12 feet; and surveys have been made for a canal across New Jersey, 31 miles long, connecting the waters of the Delaware and Raritan Rivers, with a navigable depth of 12 feet and all masonry so constructed as to permit a further deepening to 27 feet. Supposing that Congress will make possible the completion of this plan, our Navy will be provided with the immediate facilities that it would require for our primary line of defense in this region. As a transportation man and a believer in national preparedness, I am glad again to express my belief in the importance of the development of our inland waterways when of adequate depth to make them commercially self-supporting.

But granting that all this may and will be done, what then? Must we not provide for the possible penetration of this, our first line of defense? May not this happen in spite of all our care, and given a degree of preparation not at present in sight? We have a very extensive and wide open coast line. We must suppose that a cunning and powerful foe, well prepared with information concerning our state of defense (and none other would dare to attack us) may be able to land an invading army. For armies of defense sufficient to protect the vast wealth and essential resources and plants of our great cities and industrial districts, we will need adequate alternative routes of transportation to the great reservoirs of men and materials of the interior. For of what use to us will these vast resources be if we cannot make them effective at the points of danger?

A trip along our coast will disclose a series of fortifications. A former generation of our military engineers built and armed most of these forts to be manned by the Coast Artillery in the defense of our harbors. The armament of these defenses has in my lifetime changed from the smooth-bore muzzle-loading artillery pieces which in the old days threw cannon-balls across the harbor entrance to the great rifles that at the time of the World War would have been effective against enemy ships ten miles at sea.

The World War developed the railway mount. Guns capable of firing 30 miles could be moved quickly over rails to desired locations. The development of railway artillery enables an economy in armament. Its mobility permits concentration at threatened points. But its great weight and size throw an added responsibility upon the railways. Bridges must be sufficiently strong, cuts and tunnels of a size to permit the free passage of these great guns along our coasts and from coast to coast. The better the through trunk lines, the greater the effectiveness of these implements of modern defense.

I recall a story told me by an officer attached to the staff of Ambassador Herrick in Paris at the outbreak of the War. The Ambassador asked him where Springfield, Watervliet, Picatinny, and Frankford Arsenals were—and when told, the Ambassador related how he had sat next a Prussian colonel at a dinner in Berlin the year previous. In the course of conversation the Ambassador touched upon the then somewhat strained relations between Germany and England... The Prussian replied:

"Well, they had better look out! In two weeks we can have Paris. We don't care about Belgium. Another fortnight and we can have an army of two million men in England and then if the United States

doesn't behave itself we will come over and give it a spanking."

This was the Prussian viewpoint at that time, subsequently disproved; but how close they came to Paris in those first weeks of the war!

The Ambassador asked the Colonel how he thought Germany could spank our country. He replied:

"In ten days we could land an army of 500,000 men on the New England shores—after we had captured England and could use her ships...By blowing up the Panama Canal, with our Navy alone, we could cut your Navy in two and bottle up, or destroy either half.

"Five hundred thousand men would capture Springfield Arsenal, then Watervliet, Frankford and Pica-tinny Arsenals, and would control New York, New England and Pennsylvania. We could take our time about the rest of the country."

One of the best ways I know of to plan for the future is to draw lessons from the past. If representative officers in the past considered it was possible successfully to invade the United States, others again will so consider it, particularly if we grow in wealth and opulence and guard not against the accompanying indolence.

In the interviews and discussions I was privileged to hold from time to time with Major General Leonard Wood when he was in command at Governor's Island and I was representing the railroads in the Eastern Region, I gathered that this officer, whose experience and ability are generally recognized, considered that our line of military weakness lay along the mountainous country stretching generally across Western Pennsylvania from Lake Erie to the Chesapeake. An invading army could, he thought, hold this line more easily than any other and by doing so separate the producing section of the country from its source of raw materials. Adequate defense demands adequate alternative routes of transport to, from and through this vulnerable line.

It so happens that I have long been interested in the construction of a new line of communication through this district. This line, popularly known as the Har-riman Short Line, would be constructed in almost a bee-line across the mountains of Pennsylvania by means of tunnels and bridges over a route surveyed many years ago by Joseph Ramsey, an able railroad engineer, and since improved by carefully conducted surveys. It would extend from Pittsburgh to Easton, a distance of 283 miles, and would be shorter by 17% than any existing line, in addition to having the advantage of a much lower crossing of the mountain range. The military usefulness of such a line as a part of our preparedness for National defense is obvious.

When application for a certificate of public convenience and necessity for this line was made to the Interstate Commerce Commission in 1925, the Examiner to whom the case was referred, said in his official report on the application, "In view of our own experience during the World War, the value of such a line for military purposes is a factor that deserves con-

sideration." Pursuant to this statement, I had some subsequent correspondence with Secretary of War Hurley in the course of which he said:

"I beg to acknowledge the receipt of your letter of November 20th, 1929, in which you ask me to advise you as to the views of the War Department upon the proposed construction of a line of the New York, Pittsburgh and Chicago Railroad across Pennsylvania.

"From the military point of view it may be said that the railway line described in your letter would be of decided value."

When in 1930 the case was heard before the Interstate Commerce Commission, the Secretary of War sent Brigadier General Francis H. Pope, Assistant Quartermaster General in charge of the transportation service of the War Department, and Colonel Stanley D. Embick, now brigadier general, acting Chief of the War Plans Division of the War Department, to lay before the Commission the great military value of the proposed railway. Colonel Embick testified, in part, as follows:

"The view expressed by the War Department is that such a road would be of decided military value. However, it is the view of the War Department that any road, initial road, in this area, would be of decided military value. The area is one not only of great industrial importance, but will be of very great strategic importance in any war involving the eastern coast of the United States. So any increase in east and west railway facilities would facilitate the movement of troops and supplies and would be of a military advantage."

In any other country than the United States, a line so important would have been constructed long ago by the Government. But in the United States we do these things by private enterprise, and I have been glad to devote time and effort to this proposal.

I have always been interested in the problems of transportation arising from the necessities of war. During the World War I was honored with election as Chairman of the Eastern Department of the Railway Committee of National Defense in cooperation with the National Council of Defense. This committee represented the railroads of that department in all matters pertaining to troop movement, location of cantonments, etc. During my occupancy of this position, approximately 3,750,000 troops were moved by the railroads in that department.

No one more than I hopes that the time may come when international disputes will be settled before world tribunals, but that time has not yet arrived, and we cannot rely upon its successful advent in the near future. In the meanwhile war is a reality. We are the least war-like of nations, yet our own brief history reveals the wars of 1775, of 1812, of 1846, of 1861, of 1898, and 1917. The interval between these dates averages 29 years, or about time enough for a new generation, unacquainted with the trials and sufferings of war, to grow up. How can we be true to our trusteeship of the treasures of liberty and enlightenment that are our national inheritance, if we fail to make adequate preparation for our national defense?

# American Troops in China~Their Mission

With Illustrations From Photographs Taken in China in Recent Years

Captain Jesse D. Cope, 65th Infantry

THE United States, along with other powers, maintains a small body of troops in China. This we all know. But many of us do not know how our troops happened to go to China or why they remain there. Opinions on this vary from the idea that our troops are there to protect foreign lives, to the conviction that they are sojourning in the orient for the protection of American business interests.

Both opinions are, in the main, incorrect.

Back in 1900, after the diplomats of the world accredited to China had spent about eight weeks cooped up in the legation quarter of Peking (now Peiping) subjected to constant assaults by the Boxers and Chinese Imperial troops, they were all keen for some provision against a recurrence of that harrowing episode.

Accordingly, in the protocol signed at Peking on September 7, 1901, which provided indemnities, punishments, apologies, erection of expiatory monuments, arms importation prohibitions, destruction of the Taku forts, and other measures intended to secure full retribution from China for her midsummer madness, there was included an article which had for its purpose the safeguarding of the means of exit of the envoys from Peking to the sea.

It will be remembered, very vividly by some, that the siege of the legations in Peking was the culmination of a period of anti-foreignism that had its inception in 1898 with the riots against the missions and other forms of hostility to foreign aggression.

Throughout almost the whole of the year 1899, and continuing into 1900, there were unrest, riots, and rebellion in almost every province of the Empire, and mission stations were attacked everywhere. The assembling of several Italian war vessels in Chinese waters in March of 1899 caused an order to be issued to the viceroys of the important provinces to put their forces on a war footing, and in June an order was issued to resist by force any landing of armed foreign troops. Preparations for resistance continued throughout the year, and the country, already aflame with anti-foreign riots, was fanned into a blaze of hostility to foreign aggression. The foreign garrisons were able at this time to protect themselves, and the foreign merchants were secure in the shelter of the treaty ports, but the native converts to Christianity, who were reputed to bear the taint of foreignism, received the full fury of a hostility that could find no other outlet.

The enmity toward foreigners and everything foreign continued unabated, and in September there came

into notice a sect whose only reason for existence was its hatred for foreigners and Christianity.

This society was known as "Boxers" and had as a motto on its flag the characters *Pao Ch'ing Mieh Yang*, meaning, "Protect the dynasty, exterminate the foreigners." Its members were required to undergo very impressive initiation ceremonies, passing through various mystic rites. There was a belief among them that they were invulnerable to sword, spear, or bullet through the protection afforded by the spirits of the dead hovering over them.

The Boxers had a free hand in most localities, the local officials seeming to be in sympathy with them or at least indifferent, and their depredations continued unabated. The native Christians were forced to burn incense, prostrate themselves in the temples, and indicate in other ways the renunciation of their foreign religious teachings.

The "Red Fists," as the Boxers were sometimes known, continued their atrocities, which were always anti-Christian, until the end of the year. Many battles between Boxers and converts took place, the Chinese troops looking on inactive. Christians were tortured and forced to recant and their houses were plundered. The movement spread far into Chihli, the province in which Peking, the capital then, is located.

Later on in 1900 it became the belief of foreigners that it was the Empress Dowager's plan to drive all the foreigners into the sea and that she considered the Boxers as serviceable allies to that end. The foreign envoys, becoming really alarmed at the condition of affairs, entered protests at the laxity apparent in the Chinese government's dealing with the disorders in the South.

On January 27, 1900, the American, British, French, German and Italian legations sent identical notes to the Chinese government asking that a decree be issued ordering the complete suppression of the unlawful societies. A month later the legations were informed that the viceroy of Chihli province and the governor of Shantung province to the south had been ordered to suppress the societies; and, on March 1, that the viceroy of Chihli had issued a proclamation in conformity with the orders he had received. The next day there was a conference of the legations and another note was presented asking that the decree be given general publication in the Peking Gazette, but, on March 7, this was refused as being contrary to precedent. The legations' demand was repeated, with more insistence, on March 9. The American envoy expressed his opinion that "the Chinese government

have, either purposely or through fear of a general uprising, flagrantly trifled with this matter from the beginning and have grossly violated their treaty obligations." All five envoys then agreed in advising their



Chang-Tso-Lin Reviewing a Guard of Honor, United States Army Headquarters, Tientsin, 1924

respective governments that a naval demonstration be made in the Gulf of Pechihli, the waters giving access to Cheefoo and Tientsin.

Early in May armed Boxers raided villages of Christian converts near Paotingfu, 80 miles from Peking, killing and burning alive some 70 of them. Two days later they attacked in the same way another village only 40 miles from Peking. About this time the public in Peking was warned of a great secret scheme to crush all foreigners in China and to wrest back the cessions made to foreign powers. The principal leaders in the project were reputed to be the Empress Dowager, Prince Ching and Prince Twan, the armed force behind the movement being Prince Ching's force of 50,000, Prince Twan's force of 10,000, and the Imperial Guard of 12,000—the Boxers being counted as auxiliaries.

All of the Chinese of the upper classes knew of this project and had warned their foreign friends but had been laughed at. The foreign legations had demanded the suppression of the Boxers and had had dust thrown in their eyes.

Warnings of the impending attack on the legations were so abundant that foreigners, as a rule, ceased to regard them, while those who took them seriously thought the outbreak would be deferred. Several of the envoys were reluctant to summon additional legation guards, fearing to consolidate the anti-foreign element.

On May 28 word came to Peking that the railway was attacked and two bridges and two stations burned on the Paotingfu line, and that Fengtai, on the Tientsin line, only ten miles from Peking, was burned with all the machine shops, and that no trains were running between Tientsin and Peking. A remarkable and somewhat amusing illustration of the reasoning capac-

ity of these fanatics was their announced plan to kill the railway station agent and burn the tickets to prevent the escape of the foreigners from Peking by train.

In the meantime, each legation had, on its own initiative, asked for marines to be sent to Tientsin, and so at a diplomatic meeting May 28 it was decided to order them up to Peking.

After some discussion permission was given May 31 for 30 guards for each legation to proceed to Peking. The guards arrived at Peking the same day at 6:45 p. m.—53 Americans, 79 British, 79 Russians, 75 French, 39 Italian and 24 Japanese. These were joined on June 3 by 51 Germans and 32 Austrians. Together with the 19 officers, the entire force amounted to 451. The American, British, Austrian, and Italian detachments each had a machine gun, and the Russians took along machine gun ammunition but left the gun itself in Tientsin!

The French and British had had 100 men each to entrain for Peking, but as the Russians had only 79 men, diplomatic exigencies required that the excess of each of the other two be left behind.

The alarm which led to the summoning of the guards was well founded. The foreign envoys now saw more clearly into the situation and were much perturbed. Accordingly, on the proposal of the French envoy, the home governments were simultaneously informed by cable of the situation and were asked to instruct their naval authorities to take concerted action for their relief. The cutting of communications was imminent.

The admirals of the foreign fleets lying off Taku Bar were ready for any eventuality, but as yet had received no explicit orders from their home governments. On



Types of Russian Soldiers in the Chinese Forces

June 9 the British admiral, Sir Edward Seymour, then with the other admirals off Taku, received a telegram from the British envoy in Peking: "Situation extremely grave. Unless arrangements are made for immediate advance to Peking it will be too late."



Within two hours Admiral Seymour, in good old British fashion, went ashore with his landing force and left Tientsin, about 30 miles up the river from Taku, at 9:30 a. m., June 10, with a mixed naval force. The next day at Yangtsun, a few miles from Tientsin, in the direction of Peking, he was joined by other foreign detachments, bringing his total force up to 2157, consisting of 112 Americans, 916 British, 540 Germans, 312 Russians, 158 French, 54 Japanese, 40 Italians, and 25 Austrians, with Admiral Seymour, as senior officer present, in supreme command.

In the meantime the Boxers, with their long hair tied up in red cloths, red ribbons around their wrists and ankles, and wearing flaming red girdles, were much in evidence in Peking. The shops of the dealers in foreign goods and valuable commodities were destroyed and plundered. Cemeteries of the foreign community were desecrated, bodies being disinterred and tombstones broken. At Tientsin the Boxers continued their devastation and slaughter, and bodies of Chinese sympathizers with the foreigners, who had been killed and thrown into the river, were often seen floating by.

There was no railway communication between Peking and Tientsin, the outlet to the sea, after June 5. The consuls at Tientsin and the admirals of the fleets lying off Taku Bar, 30 miles away, had had conferences but no definite action had been decided upon. On June 16, at a council of the admirals, it was resolved to take steps to preserve the railway and protect the Tientsin community.

On June 17 the Taku forts, guarding the entrance to the Hai Ho, were captured with a loss on the side of the allies of 64 killed and 89 wounded.

Admiral Kempff, the American admiral, took no part in the decisions and proceedings, and on June 14 had

approved by President McKinley on the ground that we were not at war with China and that a hostile demonstration might consolidate the anti-foreign ele-



Li Ching-lin's Retreat From Tientsin. The March Discipline is Good

ments and strengthen the Boxers to oppose the relieving column.

The Chinese government took the seizure of the Taku forts as a declaration of war by the united foreign powers and at once opened hostilities. Thereafter, for the first time, armed Chinese troops in uniform openly attacked foreigners; but the question arises whether the taking of the forts was a ground for hostilities, or merely an eagerly awaited pretext.

In the meantime Admiral Seymour's column crossed the Pei Ho on the bridge at Yangtsun, 20 miles north of Tientsin, which was still intact. Here he met General Nieh's troops and, exchanging friendly greetings, passed on. He did not get far, however, for the Boxers had damaged railway tracks and bridges, and the relief troops had constantly to make repairs before they could move forward.

On June 12 they managed to reach Langfang, 40 miles north of Tientsin and about half way between that city and Peking. From there the line was too badly damaged to admit of repairs and the advance was brought to a standstill.

However, the expedition was valuable in one respect. It upset the fallacy that almost any well organized foreign force, no matter how small, could march through China from end to end without effective opposition by the Chinese.

Admiral Seymour's expedition being helplessly blocked at Langfang, it was decided to repair the railway to the rear and withdraw to Tientsin for a reorganization and an advance by river. At Yangtsun, on the return, it was found that the railway bridge had been destroyed and enough native boats to transport the wounded and essential baggage had to be seized.

It seems worthy of note in passing, that just 25



Gen. Li Wen-chao Issuing an Attack Order

informed the British admiral that he was not authorized to initiate any act of war with a country with which his country was at peace, and refused to join in taking possession of the Tangku railway station near the mouth of the river. This action was later

years later an international passenger train, guarded by soldiers of the United States, Great Britain, France, Italy, and Japan, found itself on this same bridge at Yangtsun, between two opposing Chinese armies, with bombs aimed at it from modern airplanes exploding all around.

Meantime (to get back to Admiral Seymour's expedition) as a result of the seizure of the Taku forts



Machine Gun in Action in China

the rear guard at Langfang was attacked on June 18 by a force of about 5,000.

Eventually a strong column proceeded from Tientsin to the relief of Admiral Seymour's expedition and brought it in on June 26.

The Peking community, now in a state of siege, was much disheartened at Admiral Seymour's inability to advance and reasoned that if Chinese imperial troops were employed against his column there was a very good chance that they would be let loose against the legations.

On June 19 the members of the diplomatic body in Peking received identical dispatches from the Chinese government requiring the envoys, with their families, their staffs, the guards, and all foreigners, to leave Peking for Tientsin within 24 hours, and stating that troops would be furnished for an escort. The diplomatic body drew up a note expressing their astonishment at the sudden demand, and pointing out the necessity of a conference in order to settle the details of the march, the form of escort, and the means of transport. The note included a request for an interview with the Chinese officials at 9:00 a. m. the next day.

At 9:00 the next morning no reply had been received and the German envoy, Baron von Kettler, indignantly announced his intention to proceed to the *yamen*. On his way there he was assassinated by a Chinese soldier in uniform.

This murder struck with horror the envoys and the foreign community in Peking, already shut in their defenses and expectant only of the worst. There was no thought now of leaving Peking under any kind of Chinese escort. Every thought was turned to defense, and every man and woman was determined to continue the defense to the last.

During the day there were no signs of hostility but punctually at 4:00 p. m., 24 hours after the request to leave Peking, the legations were swept by a storm of rifle fire. From this time the foreign community of 473 civilians (245 men, 149 women, and 79 children), the 451 foreign guards, and some thousands of Chinese converts, were subjected to constant assaults by the Boxers and Chinese imperial troops, until the final relief on the 14th of August.

The story of the relief of Peking is more or less familiar to everybody—how the combined foreign forces finally started their advance from Tientsin on August 4; how the Chinese troops were met and decisively defeated at Yangtsun on the 6th; how they were steadily driven back toward Peking; how the foreign troops staggered along for days through the intense heat and finally arrived at the east wall of the city and the besieged heard the joyful boom of heavy guns and the tap, tap, tap of the Maxims; how a battalion of one of the allied forces prematurely advanced in spite of the general plan to concentrate outside the wall and attack in force the next day, and how this caused a general rush forward by all the troops, each group "on its own" and intent only on entering the city first; how the American troops boldly climbed the wall of the Tartar city and how their flag was the first planted on the wall; how the British were the first to enter the beleaguered legations, with the Americans close behind; how the Emperor and the Empress Dowager, disguised as peasants, left the palace in common carts and fled to the Summer Palace and thence to Kalgan and on into Shensi province; how the foreign contingents, 3,000 strong, made a



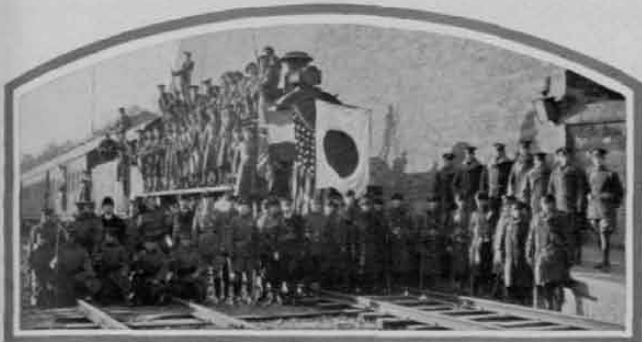
A Chinese Officer Making a Reconnaissance, Accompanied by the Ever Present Bodyguard

triumphal entry into the Forbidden City, cheering one another as they marched past.

The negotiations which ultimately led to the signing of the protocol were not so much with the Chinese government as between the Allied Powers. Eventually, however, the protocol was signed and, among other items, Article IX was included to provide for the safeguarding of the railway for the exit of future harassed envoys.

This article reads, in part, as follows:

"Article IX—The Chinese government has conceded the right to the Powers in the protocol annexed to the letter of the 16th January, 1901, to occupy certain points, to be determined by an agreement between



The International Train and the Guards

them, for the maintenance of open communication between the capital and the sea \* \* \*."

Desiring, however, to avoid as far as possible occasions of collision between the foreign troops and those of China, it was further proposed that the Chinese government should undertake not to march any troops within 20 Chinese *li* (6 2/3 miles) of the city or of the troops stationed at Tientsin, and that the jurisdiction of the commanders of the foreign posts to be established along the line of communications should extend to a distance of two miles on either side of the railway.

These proposals were all accepted and agreed to by the Chinese government in a communication from Prince Ching under date of July 18, 1902.

During the revolution of 1911-1912 the representatives of the Powers found it advisable to exercise the right of military control over the Peking-Mukden Railway from Peking to Shanhaikuan. This latter point is near Chingwangtao, at which port American transports now call. Accordingly American, British, French, German, Italian, and Japanese occupied allotted sections of the railway.

The allotment to sectors was in accordance with resolutions adopted by the diplomatic body at Peking which also provided that:

"Troops should be placed at important stations, bridges, etc., along the line of the railway.

"Both Chinese Imperial and Revolutionist troops are at liberty to utilize the railway line and adjoining piers and wharfage for the purposes of transportation, landing or embarking and will not be interfered with.

"Both parties will be notified to avoid any interference with the railway and to refrain from damaging it in any way. The Board of the Imperial Railways of North China will be requested to maintain at both Shanhaikuan and Tientsin a repair train loaded with suitable materials for repairing damages.

"Any attempt to permanently damage important parts of the line, such as stations, depots, machinery, bridges, etc., will be resisted by the combined forces of the six powers cooperating in the defense of the railway.

"The Board of the Imperial Railways of North China will be requested to always keep ready at Shanhaikuan and Tientsin sufficient rolling stock to transport 250 infantry in order that reinforcements can rapidly be dispatched.

"The telegraph offices are to be protected and telegraphic communication maintained. Chinese troops of either side may use the line.

"Officers commanding posts and patrols should be informed of the conditions and told to do their best, with the forces at their disposal, to carry them out."

Unfortunately it is seldom convenient for Chinese armies moving over the railway to abide by the conditions set forth, and there have been many gross violations, even to the extent of firing upon foreign trains with artillery.

There came into being what are now termed International trains, or Allied trains, which are run during times of railway traffic interruptions.

It has been the policy of most of the foreign governments, more especially that of the United States, to effect the passage of the trains by peaceful means, such as persuasion, expostulation, and bluff, rather than by any show of force. This latter item would in most cases be ineffective anyway because of the small size of military units available.

The trains are made up of a locomotive, a buffet or dining car, a coach for each of the five nationalities composing the train guard (since the World War these are American, British, French, Italian, and Japanese), and a combination baggage car and caboose, all operated by the regular Chinese staff of the railway. Usually several cars of maintenance of way material and equipment are included with the train.

Each of the five nations furnishes a small detachment—usually about 12 men under a lieutenant—and the entire train is commanded by a captain as train commander, who has full responsibility for the guard of all nations and the train and its passengers. The five nations, from their garrisons at Tientsin, take turns at furnishing the train commander, who operates under orders of the senior military commandant—usually the Japanese commander at Tientsin.

On the front of the locomotive are hung the national flags of the guard, that of the train commander's country in the center, and on both sides of each detachment car are hung the flags of the guard occupying it. Passengers ride in the car of the detachment representing their country.

The railway lines are usually blocked with Chinese troop trains endeavoring to get to the front or, as is not infrequently the case, to the rear. The train commander must search out the ranking Chinese officer present and remind him of the "open communications to the sea" provisions of the protocol, and after several cups of tea and much talk the track will be cleared—if convenient.

So then, American troops are in China by virtue of the protocol signed 30 years ago, and their mission is to keep the railway open from Peking to the sea.



# Militarist or Pacifist ?

By Lieutenant Colonel John W. Lang, Infantry

ON July 23, 1929, Mr. Hoover issued to the Press a statement which brought forth millions of words of news and editorial comment. Almost unanimously, editors applauded the idea of economy and retrenchment. Some few writers saw in the announcement only an order for a meticulous and destructive survey of the Army with a view to wiping out some branches and reducing it in strength; but the majority read more than the headlines and saw these significant words, "At the same time maintain *completely adequate preparedness*; Such an investigation to be *constructive* and *not* destructive."

The keynote of the President's statement was economy, but of far more importance to the nation was his insistence that the United States maintain a completely adequate defense. In this he is no different from that Arch Priest of economy, Mr. Coolidge, who, too, is a firm advocate of adequate national defense.

In its 1928 platform, the Republican Party renounced "war as an instrument of national policy," and pledged the maintenance of a Navy in the ratio provided in the Washington treaty; the Democrats declared for outlawry of war, protection of American lives and rights, "abhorrence of militarism, conquest and imperialism," and maintenance of an Army and a Navy adequate for national defense.

Here is a confusion of ideas and of terms. The Republicans insist on a big Navy, but renounce using it. The Democrats outlaw war, yet will protect American lives and rights; they abhor militarism, yet favor maintaining an Army and a Navy adequate for national defense.

One wonders how American lives and rights are to be protected. Why keep an Army and a Navy adequate for national defense unless they are intended to be used for defense in the event of an attack? How do these square up with the outlawry of war? What do they mean by militarism?

Mr. Hoover is not so ambiguous. In the language of the street, he says, in effect, "We are a peaceful, easy-going family. We abhor fights and want to avoid them. But if anyone imposes on us or on our children, or seeks to trespass on our rights, he will have to answer to us. We maintain watch dogs, lock our doors, bar our windows, and keep a loaded gun in the house. We want peace and we are willing, if necessary, to fight for it."

The numerous public utterances of our chief executives with reference to preparedness are unmistakably plain and are sure to bring forth accusations of "militarism" from those citizens who refuse to admit the fact that the prime object of government is the protection of the people who set it up. Certain organizations are prone to paste the label "militarist" on

anyone who favors the maintenance of an Army and a Navy.

The careless misuse of these terms *militarism* and *militaristic* to describe the spirit of nationalism, as opposed to the socialistic, or the internationalistic and the individualistic viewpoints, is becoming more common. The individualist refuses to recognize the necessity of the struggle between classes and the struggle between nations, even though these struggles be for their very existence. The socialist fails to recognize the importance of competition within groups and sees little but the united forces of one class facing those of another. He believes that the mutual interest of classes throughout the world are or should be powerful enough to break down national boundaries and to make struggles between nations impossible in the future. He is an internationalist. In his effort to wipe out national boundaries he blinds himself to the dangers of civil wars and other domestic disturbances. The conception of history held by the individualist and the socialist has been bluntly expressed by a brilliant economist as "all history is either a struggle for the feeding ground or a struggle for a share of the fodder." The nationalist, on the other hand, reads history as a record of struggle between political groups, races or nations, and looks upon the problem of national existence, expansion, and supremacy as the vital concern of mankind.

Each of these views has its element of truth and its utter disregard of the significance of the others. Their adherents hurl the epithets Pacifist, Red, Militarist, Jingo, and Slacker at one another with self-righteous zeal.

Back in the "Days of the Empire" in Manila, the writer was arguing with a 100 per cent Spaniard on the relative merits of the Spanish and English languages. After much skirmishing back and forth the Don, who was Professor of Spanish in the Manila High Schools, brought up his shock troops in the form of this statement: "Ah señor, but your English is constantly changing, the word of the last century, or even of last year, means a different thing to-day. 'Let' used to mean 'to hinder', and now it means just the opposite. The Spanish of Cervantes is the Spanish of to-day."

There was no real answer to be made to that, but the flippant reply: "Yes, that shows conclusively that English is a live language and that Spanish belongs with Latin and Greek, among the dead languages," so filled the Castillian with sputtering rage that the argument ended then and there.

There is much in what the Professor said. In the United States the noun "loan" has become a verb, almost supplanting the perfectly good and adequate

"lend." Many words which formerly bore no derogatory inference, have become epithets to be hurled at the head of anyone who differs from our viewpoint.

Green shades off imperceptibly into blue at one side of the spectrum and yellow at the opposite. Green is neither blue nor yellow, though it is both. Blue has many symbolic connotations which vary from low in spirits to the poetical symbol of freedom. Yellow applies to richness as well as to cowardice.

So, too, have Pacifism and Militarism many connotations. Like propaganda, through loose usage they have become terms of reproach. Each has many shades and combined they produce many variations of thought.

The statesman should have a bit of both. He should be an advocate of arbitration as a means of settling international misunderstandings, yet he should be disposed to provide for the strength and safety of the country by maintaining adequate military force. He should heed the words of John Adams, who in his Fourth Annual Address to Congress on November 22, 1800, said, "We cannot, without committing a dangerous imprudence, abandon these measures of self-protection which are adapted to our situation and to which, notwithstanding our pacific policy, the violence and injustice of others may again compel us to resort." The statesman should weigh the costs of war and preparation against it in the balance against the probable costs of defeat and the loss of our hard-won liberty and prosperity, just as the business man weighs the costs of insurance premiums against the value of his property and the risks to which it is subjected. He must remember that the friend of to-day may be the adversary of tomorrow.

Thus we see that the ideal statesman has in his mental make-up the thoughts and qualities which will prompt one group of extremists to call him "Pacifist," and another group to hurl at his head the opprobrious name "Militarist."

Thus is indicated how, in our living language, the contradictory terms pacifism and militarism are loosely used, even to the extent of being applied to the same person for an identical act. To Webster the terms are antonyms.

It may be well to analyze Webster's definitions of militarism and militarist. He says, "Militarism. 1. A military state or condition; disposition to provide for the strength and safety of a nation or government by maintaining strong military forces. 2. The spirit

and temper which exalts the military virtues and ideals and minimizes the defects of military training and the cost of war and preparation for it, often used derogatorily of the spirit which tends to confer undue privilege or prominence on the military class;" and, "Militarist. 1. An expert in military matters. 2. One who is imbued with the spirit of Militarism."

In the first part of this definition of militarism, everything seems to hinge on the adjective *Strong*. By what standard does one measure the strength of a military force? Is it a matter of numbers, of training, of armament, or of a combination of these? In the matter of numbers, is it numbers in relation to the size of other armies, or in relation to population, national wealth, national expenditures, or territorial expanse?

Our Regular Army is as well-trained, armed, and equipped as any other army. In point of numerical strength, the official figures for the year 1927, at the bottom of this page, show how it stands.

An intelligent analysis of this table shows that the United States has a relatively small army—smaller in actual numbers than that of any other world power except Germany, and smaller in relation to wealth, population, area, and cost than any other. Its cost is less than one-third that of Germany's in proportion to national wealth.

Our small Regular Army is spread over the continental limits of the United States and in our far-flung outpost line in the Pacific and in the Caribbean. Our troops are stationed in Alaska, Hawaii, China, the Philippines, Porto Rico, and the Panama Canal Zone.

As to costs, over 60 per cent of the 1927 War Department budget expenditures went for the pay of the Army and the salaries of the great number of civilians employed by the Army in river and harbor work, on the Panama Canal, in the administrative and supply services, in production, and in other lines. A considerable part of the remainder went for food, forage, shelter, transportation, fuel, clothing, and equipment. The total sum of 310 millions went back into circulation and increased our national prosperity. The money was spent by the United States for operations managed by public authority, rather than for operations managed by private enterprises. The importance of army expenditures in the business of the country is indicated by the fact that any attempt on the part of the War Department to remove our troops

| Country       | No. in<br>Regular<br>Army | Soldiers<br>per 1000<br>population | Soldiers<br>per 1000<br>sq. mi.,<br>U. S.<br>proper | Soldiers<br>per 1000<br>sq. mi.,<br>including<br>dependencies | Soldiers<br>per billion<br>of natl.<br>wealth | Cost in<br>% of natl.<br>wealth | Cost<br>in % of<br>total Govt.<br>expenditures |
|---------------|---------------------------|------------------------------------|-----------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------|---------------------------------|------------------------------------------------|
| United States | 126,308                   | 1.06                               | 42                                                  | 36                                                            | 299                                           | .06                             | 7.1                                            |
| Great Britain | 213,919                   | 4.78                               | 2,261                                               | 39                                                            | 1,945                                         | .23                             | 8.2                                            |
| France        | 517,230                   | 12.69                              | 2,432                                               | 145                                                           | 8,397                                         | .36                             | 11.5                                           |
| Italy         | 236,286                   | 5.62                               | 1,974                                               | 185                                                           | 7,876                                         | .36                             | 27.2                                           |
| Germany*      | 100,000                   | 1.60                               | 550                                                 | 550                                                           | 1,818                                         | .20                             | 5.2                                            |
| Japan         | 180,000                   | 2.88                               | 1,219                                               | 806                                                           | 4,186                                         | .25                             | 12.3                                           |
| Russia        | 596,100                   | 4.07                               | 73                                                  | 73                                                            | 18,821                                        |                                 |                                                |

\*Germany is limited to 100,000 by the Versailles Treaty.

from any locality is immediately and vigorously opposed by the business men of that locality.

Under the second part of the definition of militarism I may be accused of being militarist for what may appear to be an attempt to minimize the cost of preparation against war. Actually, the costs of preparedness are not costs of preparation for war; the costs are premiums on insurance against war, as effective an insurance as it is possible to attain, certainly more effective than a reputation for weakness. Our Army has always been the vanguard and pioneer of civilization; it carried not only order but the framework of civilized living, such as roads, bridges, and safety, far out across the plains. It carries on many activities which are of great value in peace, and which would not be developed save for the Army. The money we spend on our military establishment is not only well invested as insurance against aggression, but returns us profits for peace.

In this analysis of the definition of the term militarism, we must take cognizance of the fact that the War Department is performing the task given it in the National Defense Act of 1920, namely, to perfect plans for industrial mobilization and plans for meeting every conceivable military situation which might confront us in the event of a national emergency. Consequently, the Army is training in offensive as well as defensive warfare—not as an aggressive asset, but as an effective means of defense. The soldier and the civilian realize that the best defense is an effective offense. The defensive attitude is assumed only as a makeshift and always with the assumption of the offensive in view. Only in that sense is the Army preparing for war. The main idea is to have a military strength sufficiently powerful to discourage any nation with whom we may be in dispute from resorting to force or threat of force in its dealings with us, for “A defenseless position and a distinguished love of peace are the surest invitations to war.”

The amount of money we have spent on our past wars is colossal. More than \$6,000,000,000 have been paid in pensions to Civil War veterans and their widows. Preparedness did not cause the Civil War, nor could it have caused it, but unpreparedness was a contributory cause and an important factor in its duration, and, therefore, its ultimate cost in lives and treasure. Those \$6,000,000,000 and many others are chargeable to our system of government and to our lack of a definite and supported military policy—to unpreparedness. But, after all, regardless of to what they are charged, were not the preservation of the Union and the numerous by-products worth many times the money?

Military training, like everything else, has its defects, but it has its virtues too. The motto of West Point, “Duty-Honor-Country,” is the motto of the Army. Those are its ideals, and history shows that the American Army has always lived up to them. Army men are proud to exalt these ideals and are justly proud of such virtues as they possess. They are proud of the fact that when any job out of the

ordinary, one requiring skill and integrity, for which there is no established agency, has to be done by the Government, the Chief Executive usually calls on the Army. In flood, in disaster, in exploration, in building the Panama Canal, and even in diplomacy, it has been the Army. Possibly the duty has not always been performed as efficiently as others might have performed it, but the stern fact remains that the job has always been well and honestly done.

Professor William James of Harvard, a self-styled pacifist and anti-militarist, in his “Moral Equivalents” published in February, 1910, in *The Documents of the American Association for International Conciliation*, said:

“We must make new energies and hardihoods continue the manliness to which the military mind so faithfully clings. Martial virtues must be the enduring cement; intrepidity, contempt of softness, surrender of private interests, obedience to command, must still remain the rock upon which states are built—unless, indeed, we wish for dangerous reactions against commonwealths fit only for contempt, and liable to invite attack whenever a center of crystallization for military enterprise gets formed anywhere in their neighborhood.

“The war-party is assuredly right in affirming and reaffirming that the martial virtues, originally gained by the race through war, are absolute and permanent human goods. \* \* \* Men now are proud of belonging to a conquering nation, and without a murmur they lay down their persons and their wealth, if by so doing they may fend off subjection.”

Except, perhaps, during war, undue privilege and prominence have never been conferred on the military class in the United States. The army officer lives what Mr. Taft is reputed to have called “a life of genteel poverty.”

Webster's definition of militarist covers much ground. Every army officer would be pleased were he to merit the term under the first definition. The second definition strikes the same snags as does the definition of militarism.

According to Webster every efficient officer may be called a militarist; and Switzerland, one of the most peaceful and respected countries in the world, may be termed a militaristic nation, for the Swiss have a disposition to provide for the safety of their nation by maintaining a strong military force. Every Swiss, unless physically disqualified, receives military training. The Swiss federal army comprises all men from the age of 20 to 32 who are able to bear arms. The militia is made up of those from 32 to 44. In addition, every citizen between the ages of 17 and 50, not otherwise serving, is liable to call in time of war. Though she is completely surrounded, Switzerland has not been forced to call upon her military power for her defense since the end of the 15th Century, though her troops were mobilized during the World War for possible use.

Through an abhorrence of what they term militarism, and without any actual conception of just how

it affects a proper consideration of adequate preparedness, the eyes of many are blinded to fact and their minds are closed to reason. Military autocracy is their bogey man. We are all agreed that the placing of military authority over civil authority, or the subordination of the ordinary processes of government to military authority or influence, is not only highly undesirable anywhere, but in this country is absolutely impossible. On the other hand, reasonable, sensible precaution of a military nature is a preventive of that autocracy which was popularly associated with the Prussian military caste, and which some call militarism.

The victory of the Allies in 1918 saved the world from Prussian domination, from military autocracy—militarism, if you prefer the term. Those who fear that type of rule should be the strongest supporters of the policy of an adequate state of defense, for our only danger from military autocracy comes from without. Lord Bryce, who knew the United States, wrote:

"There is in America no military caste thinking of war and regarding war as its natural occupation. The officers of the Army and the Navy keep themselves strictly apart from politics. They are professional in spirit, highly trained, proud of their training, many of them men of great ability and technical competence, respected and trusted by the nation. They do not desire war, nor long, as soldiers and sailors did in Prussia and Austria \* \* \* for opportunities of displaying their capacity in action. *America is the only great country in which the fighting services are exempt from all that is expressed in the single word 'militarist.'*"

Some profess to see in the Citizens' Military Training Camps and in the Reserve Officers' Training Corps a "blue menace" and an effort on the part of the War Department to promote a hated "militarism." Their imaginations have usurped the functions of judgment. They ignore the fact that a fundamental purpose of the training received in the Citizens' Military Training Camps and the Reserve Officers' Training Corps is to discipline mind and body. Discipline is the enemy of broils and a preventive of quarreling. The Citizens' Military Training Camps and the Reserve Officers' Training Corps teach respect for proper authority, strengthen self-respect, develop alertness and self-reliance, increase patriotism and regard for the rights of others, promote physical and moral courage, teach observation and prompt decision, break down caste and make for true democracy, give stamina and virility to the manhood of the country, make the individual healthier and more efficient, and thus increase the collective wealth of the country. Mr. Hoover, on October 13, 1928, said, "They [the C. M. T. C.] offer an exceptional opportunity to the young men of the country for a training which leads to vigorous health, physically, mentally and morally. \* \* \* I look with hope and confidence to their continued and increasing usefulness." Can any clear-thinking, rightminded American citizen seriously question the benefits to be derived by the nation from this military training?

The Defense Tests were derided as being a scheme to make us a nation in arms! The author of a text

book on American history used in many of our high schools and colleges, wrote, in an article entitled "The Menace of Patriotism" in *The Standard* of February 1915:

"What an irreparable calamity for the cause of human progress if just at the moment when the nations were chastened by unparalleled misfortune to a point where they might listen to the entreaties for disarmament, our country should be found absorbed in the business of increasing its battalions, its fleets, and its guns! \* \* \*

"Our danger from a foreign foe is hypothetical.

"I for one say: Better go down to defeat with the flag of American idealism flying, if invasion should come, than win under a banner besmirched with the blood of men sacrificed to the ambition of a defiant nationalism."

What is a "defiant nationalism?" Is it not that love of country which impels men to fight for the flag,—is it not that spirit of providing for the national defense which some call militarism? What is meant by "American idealism" is not clear.

Just five months after Dr. Muzzey's "The Menace of Patriotism" appeared in *The Standard*, Colonel E. M. House wrote to President Wilson: "I wonder, too, whether we did not make a mistake in not preparing actively when this war first broke loose. If we had, by now we would have been in a position almost to enforce peace. *If War comes with Germany, it will be because of our unpreparedness and her belief that we are more or less impotent to do her harm.*" To-day, thinking Germans admit the truth of this statement.

Let us look at the other extreme. Pacifism, as defined by Webster, is that spirit or temper which is opposed to the employment of force as a national policy in any and *all* circumstances. Those who support a policy of non-resistance, the advocates of such a pacifism, conveniently forget that the Prince of Peace used force on the memorable occasion when He drove the traders from the temple and violently upset the tables of the money changers. Those who do not forget this instance adopt the specious argument that this was the only instance in which Christ resorted to force. The fact that this is the only record of an instance in which He employed force does not weaken its lesson. There was but one Sermon on the Mount and but one Crucifixion, yet the fact that they are single instances does not weaken their lesson.

Militarism, in the sense used by advocates of the non-resistance type of pacifism, is a state of mind. Mr. Coolidge rightly said on Armistice Day, "We can have military preparation without assuming a military spirit." The size of the military force of a nation, in proportion to its population, or in other respects, does not make that nation combative and overbearing—or Switzerland would be one of the most aggressively pugnacious countries of the world. The United States, no matter how big our Army and our Navy, could never be militaristic—the temperament of our people and our ideals forbid.

Most of us love our country, we are devoted to its welfare, we want to serve it—not only because it is our bounden duty as members of the body politic, but because we deem it a high privilege to give our personal service in return for the benefits and blessings we receive as citizens. We consider ourselves honored when we are called patriots, even though some of the self-styled cognoscenti ridicule the term.

Most of us are not internationalists because we realize that world peace can not be guaranteed merely by the friendly association of all nations on a basis of equality and without sacrifice of national character. We know that all men are not equal, mentally, morally, or physically; nor are all nations equal. In any conference of nations, is the same importance given to the statement of the Andorran delegate as to the statement of the French delegate? In the League of Nations, have all nations equal voice and influence? To come closer home—are the statements of John Doe, bank messenger, received with the same attention as those of J. Pierpont Morgan? Certainly not!

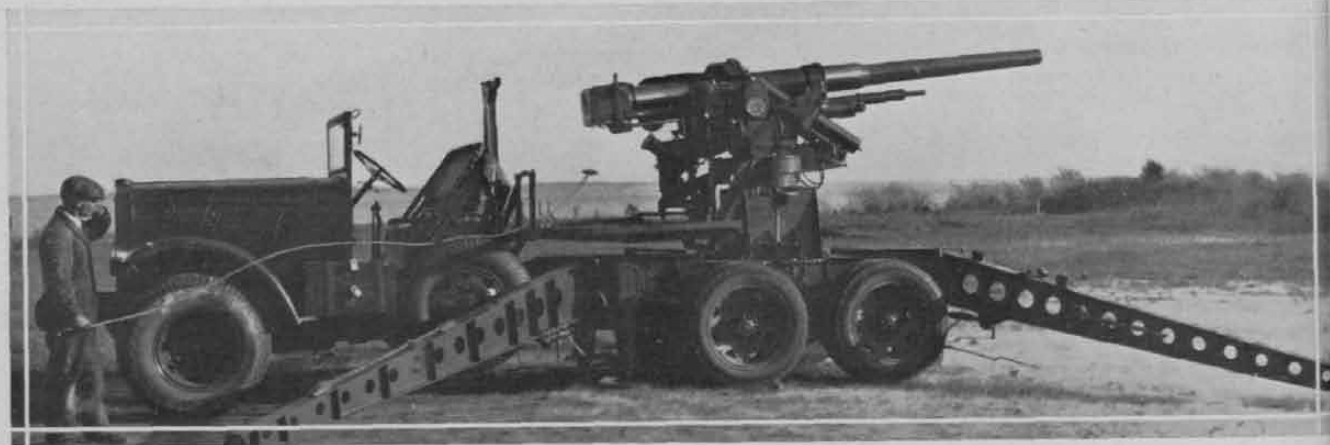
We are all pacifists—in that we all want peace. We differ among ourselves only as to the means whereby peace may be preserved. Having seen enough of war and wanting no more of it for ourselves or for succeeding generations, we are heartily in favor of any workable scheme which promises an enduring peace—as long as it is a sane scheme which takes into consideration human frailties and human ambitions. The citizen who is worthy of the name desires peace and

abhors war as much as does the professional pacifist, but he insists that we face conditions as they exist.

Between the two extremes—non-resistance, called “pacifism,” and defiant aggressiveness, called “militarism,” both of which are absurd and pernicious—lies the great middle ground on which we find ourselves. As a people, we are peaceful; we have no inclination to exert armed force against others, and yet are ready and willing to resort to force if necessary to retain our honor, our liberty, and those institutions which are our heritage from a virile ancestry.

Perhaps, some day, when the prophecies of Isaiah and Micah come to pass, when men and nations are actually equal in fact as well as in theory, we may safely beat our swords into plowshares, abandon our pride in race and in country, and really love our alien neighbor as ourselves. But unfortunately that day is not to be in this generation; stern realities prevent. As Mr. Coolidge said, “It is equally plain that reason and conscience are as yet by no means supreme in human affairs. The inherited instinct of selfishness is very far from being eliminated; the forces of evil are exceedingly powerful.”

Wisdom and the hard learned lessons of history prompt us to heed Joel's admonition and beat a few of our plowshares into swords and some of our pruning hooks into spears, at least enough to insure completely adequate preparedness. For we believe with the Saviour that “when a strong man armed keepeth his palace, his goods are in peace”—his material goods, his ideals, and his institutions.



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# Pan Americanism, its Origin and Development

A. Curtis Wilgus, Associate Professor, Hispanic American History,  
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ON December 4, 1930, Dr. John Bassett Moore, former World Court Judge, speaking before the American Bar Association in New York, asserted that in our relations with the Latin American states we had "drifted into a fog and lost our bearings." This is not the first time that so important a citizen of the United States has criticized our policy in the Western Hemisphere, and doubtless it will not be the last. But while we criticize ourselves, we are being taken to task by others outside of the country and particularly by Latin Americans. Because of this wide-spread criticism, it seems desirable to examine the whole subject of Pan Americanism and its allied doctrines.

In his volume entitled "Our Relations to the Nations of the Western Hemisphere," Charles Evans Hughes has pointed out what most citizens of the United States are prone to forget, namely, that the Monroe Doctrine, Pan Americanism, and Imperialism are separate policies, distinct in origin, characteristics, and aims. Chronologically they developed in the order given, and have quite generally remained in that order of importance in our national diplomacy. But while the Monroe Doctrine is the most talked of and the most important, its growth and development cannot be thoroughly understood and appreciated until one understands the meaning and nature of the other two. It is therefore the aim of the writer to present brief studies the significance to the United States and to Latin America of these various doctrines.

The idea of Pan Americanism must be kept separate and distinct from the concept of Pan Hispanic-Americanism, and from Pan Iberianism, or Pan Latinism. The first was intended originally to include all the nations of the Western Hemisphere, Canada as well as the West Indies, and Hawaii. The second aims to include only the so-called Latin or Hispanic-American states, while the third embraces the relations between Spain and Portugal on the one hand, and their former colonies in America on the other. With the last, however, we are not concerned here.

Briefly stated, Pan Americanism emerged out of Pan Hispanic-Americanism. The latter was suggested more than a century ago by Juan Martínez de Rozas of Chile, Francisco de Miranda and Simón Bolívar of Venezuela, Henry Clay of the United States, and others. In fact the last two men are frequently but erroneously called the "fathers of Pan Americanism."

After the collapse of the Panama Congress, called by Bolívar in 1826, and the failure of the Mexican government to reconvene it, the Latin American nations wearied for awhile of such meetings. But in 1844 Juan Bautista Alberdi, an Argentine jurist, took

up the idea once more and suggested a league of Latin American states, backed for the sake of stability by one or more European powers. Such a league should take cognizance of Latin American boundary disputes, arbitration, confederation, international law, inter-American communication, commerce, trade, and the like. No steps were taken at the time by any of the Latin American countries; but three years later the governments of Bolivia, Chile, Ecuador, New Granada (Colombia), and Peru met at Lima to draw up treaties, pertaining to confederation, commerce, navigation, postal communication, and consular relations. After it was seen that this movement would definitely fail, Peru, Chile, and Ecuador signed at Santiago in 1856 a "Continental Treaty" for the purpose of establishing a "great American family union." This attempt likewise came to nothing.

In 1864 the government of Peru invited the Latin American states to form a union which would maintain peaceful relations and mutual respect among themselves, settle boundary disputes, and punish revolutionary peace-breakers. But the eight states represented failed to consummate the project.

It was not until 1880 that another attempt was made at Latin American cooperation. In that year the Colombian government issued invitations to the Latin American republics to attend a convention at Panama in 1881, for the purpose of concluding a general arbitration treaty. Although fourteen nations replied to the invitation, this meeting was never held, because of the continuation of the War of the Pacific between Bolivia, Peru, and Chile.

Finally, in 1888, was held the last inter Latin American meetings before the movement became Pan American in scope. This was the Congress of Jurists which met at Montevideo, Uruguay, from August 25, 1888 to February 18, 1889. At this conference treaties were drawn up dealing with Latin American international law, civil law, penal law, commercial law, and laws concerning trade-marks, copy-rights, patents, and so on.

Meanwhile, statesmen in the United States had become interested in the Pan Hispanic-American movement. James G. Blaine particularly, secretary of State under President Arthur, saw an opportunity to broaden the movement into Pan Americanism. Consequently, in 1881 he attempted to assemble representatives of the states of the Western Hemisphere, with the exception of Canada, in a great conference at Washington. Failing at the time, he succeeded eight years later, when as secretary of state under President Harrison, he convened at Washington what was called the First International American Conference. Since



that date five other similar conferences have been held, the second in 1901 at Mexico City, the third in 1906 at Rio de Janeiro, the fourth in 1910 at Buenos Aires, the fifth in 1923 at Santiago, Chile, and the sixth in 1928 at Havana, Cuba. A seventh is planned in 1933 at Montevideo, Uruguay.

At their inception, these conferences were looked upon by the United States from the viewpoint of their probable economic value. Secretary Blaine had been particularly interested in encouraging the interchange of commodities with Latin America, and throughout the subsequent meetings this idea remained prominent. Thus of the 21 subjects discussed and agreed upon at the first conference, 17 were of an economic nature. In the second conference, 12 out of 19 dealt with such subjects. In the third, 10 out of 15; in the fourth, 12 out of 14; in the fifth 15 out of 30; and in the sixth, 29 out of 73 subjects concerned economic questions. This stressing of the economic aspect has not always been looked upon with favor by the Latin American states, since many of them preferred to choose their products and markets for themselves, and to trade with whom they pleased. Other questions discussed at the conferences, and more particularly in the later ones, have dealt with social welfare and intellectual cooperation. In each meeting the problem of arbitration has appeared and occasionally the Latin American delegates have attempted to inject into the discussions the question of the Monroe Doctrine and the whole foreign policy of the United States with regard to Latin America. Without doubt, the most important work of the conferences, has been the creation and maintenance of the Pan American Union (originally called the Bureau of American Republics) with its headquarters at Washington.

While the United States Government has repeatedly instructed its delegates not to dominate the discussions of the conferences, its representatives have been looked upon as leaders by most of the Latin American members. Exceptions have occurred to this general rule when occasional blocs have been created by certain states to accomplish specific ends. These, however, have never been of long standing. All action taken by its representatives at the conferences have been looked upon by the United States as recommendatory rather than as mandatory, with the result that the signature of the delegates to the numerous treaties, conventions, resolutions, and the like has not bound the United States to take definite action. The Latin American states have followed this example; consequently, the meetings have frequently degenerated into debating societies and discussion groups. Most of the actual work has been done in committees, and in the later conferences many more subjects have been treated in a shorter time than in the earlier meetings. The first conference continued 200 days, the second 102 days, the third 36 days, the fourth 50 days, the fifth 40 days, and the sixth 36 days. Because the conferences have attempted to accomplish so much, the results seem comparatively small. Hence many observers throughout the world have considered the

movement a failure and have attempted to convince others that such is the case.

Several reasons have been adduced by these persons as contributing to the material failure of Pan Americanism. The racial temperaments of the American peoples are fundamentally different, and their view points upon many questions are quite opposite. The men of the United States are eminently practical and business-like, while their southern brothers stress the cultural aspects of life. They are idealists, esthetic, rather than ethical, and emotional rather than logical. These fundamental differences have made progress difficult.

The United States must share the blame for the undoubted paucity of concrete results accomplished at these gatherings. During the interims between the meetings, its public policy concerning imperialism and the Monroe Doctrine has frequently won enemies in Latin America to Pan Americanism, for the minds of the Latin Americans, and for that matter the minds of the people of the United States and Europe, have been confused and deceived into believing that the three-fold problem is really one. To disabuse the other Americans of this idea, and to regain their good will and diminish the suspicion directed toward its policies, the Government of the United States has at each succeeding conference attempted to justify and to make amends for its interim actions. This accounts in part for the fact that two conferences were attended by the Secretary of State and a third by the President of the United States.

This action on the part of the United States has tended to center world interest in the conferences and to act as an advertising feature for the people of this country. Generally speaking, the nearer the seat of the conference is geographically to the United States the greater the interest manifested by its citizens. Thus the conferences in Mexico and Cuba attracted the greatest attention, while that in Chile aroused the least interest.

One of the most recent and at the same time one of the most important products of these Inter American conferences has been the calling of a series of special All-American conferences to discuss such subjects as highways, railroads, commerce, finance, agriculture, sanitation, public health, child welfare, women's rights, scientific problems, bibliographical projects, educational affairs, intellectual cooperation, international law, and arbitration. This expansion and at the same time concentration and specialization of the conferences is perhaps the most healthy sign of growth and development in the whole history of the movement. In these meetings, as in the general conferences, the close association of the delegates from the several states in social and intellectual intercourse has proven of immeasurable value for increasing the good fellowship and friendliness between the nations. At the same time it has tended to remove national prejudice and mutual suspicion. Certainly these reasons, it would seem, afford sufficient justification for the continuance of Pan Americanism as an international policy of each of the American states.

# Modern Transportation *versus* Army Transportation

By Major Jos. D. Eisenbrown, 213th Coast Artillery (Pa. N.G.)

**AUTHOR'S NOTE:** From the following discussion it is obvious that the writer is of the opinion that too little study, attention and appropriations have been granted this all important instrument of modern warfare. He is of the further opinion that the general thought exists among Army officers that when necessity demands there will be a surplus of mechanics, chauffeurs, etc., to care for the upkeep and maintenance and operation of Army transportation. However he also believes that in the event of hostilities, *every* Army officer should be able to handle motorized equipment and have a thorough basic knowledge of construction, operation and maintenance and not merely be able to sit behind a steering wheel and drive until the gas tank is ready for refilling.

*"A sudden declaration of war against the United States. A call to arms of all forces. An immediate movement to a point where the invading enemy has landed a large force, supported by powerful battleships, cruisers and submarines, and airplane carriers. In rear of this line, hundreds of transports with more troops to land."*

**Q**UITE a picture to visualize, yet the inevitable always happens.

In presenting this article I am of the firm conviction that too little attention is focussed on mechanization and motor transportation and not sufficient study given by officers to this important subject.

The present motor equipment of our Army, in general, is antiquated and our storehouses at many points are bulging with material constructed and developed in 1917 awaiting issue on "M"-day. What a sad and sorry plight! Quite true many of the large manufacturers of motor equipment have kept their best engineers in close touch and study with the Army and its requirements assuming on "M"-day that their establishments would be thrown into immediate operation and production to supply the demands. But can it be done? Have we a standardized unit adopted, and if so are we sufficiently trained to handle that motor equipment, newly designed and manufactured or which may be commandeered by the government from commercial sources to tide us over until mass produc-

tion on a standard unit is assured? Right here is where an officer must be trained and know his stuff. In any one unit, after commercial vehicles have been commandeered, there may be six or eight different makes of motor vehicles assigned, each manufactured



5 Ton, 4-Wheel Drive, F. W. D. Truck. (Adopted as Standard Cargo Vehicle)

for the same purpose, but differing in operation and maintenance from any with which we are equipped at the present time.

As aforesaid, the old, inadequate equipment which is on hand in all branches of the Army in insufficient quantities will be utilized and must be supplemented



10 Ton, 4-Wheel Drive, Mack Truck, Used as a Prime Mover for the AA Gun. (Now Under Consideration for Adoption).





Truck Designed for AA Machine Gun. 3½ Ton, White Chassis.  
(Now Under Test)

by vehicles of modern manufacture supplemented by those in commercial use. It seems appropriate to present some important data compiled by the National Automobile Chamber of Commerce, in order to present a picture of just what is available in time of emergency. From these data we learn:

*That*—in the United States the entire population could be carried by motor trucks with an average of 36 persons to a truck.

*That*—there was a total of 3,379,854 motor trucks registered in the United States in 1929, an increase of 8 percent.

*That*—14,500,000 head of livestock were hauled by trucks last year over an aggregate of 60,500,000 miles with an average haul of 50 miles.

*That*—73 percent of all fruit and vegetables for the New York metropolitan area, including Long Island, and parts of Pennsylvania and New Jersey, was brought in on motor trucks.

*That*—55 railroads are now operating an estimated total of 5900 trucks in addition to the 9759 trucks of the Railway Express Agency.

*That*—ten of the leading truck fleet owners in the United States operate a combined total of 52,809 trucks.

*That*—there were 92,500 motor buses in the United States during 1929, with a total of more than ten billion bus passenger-miles.

*That*—more than 11,000 of these buses are in the service of 262 electric railway companies, and that 78 steam railroad companies are operating 2389 buses.

What does all this mean? In this hectic, fast-stepping, time-consuming, rush and bustle of modern

times, it is seldom possible to relax and reflect upon the hugeness of the industry that so closely touches our every day existence. The statistics presented take us behind the scenes of this tremendous industry. It gives us an idea as to what is available in time of emergency. Every officer is concerned for we must be able to accept that which is issued or commandeered in an emergency and get to our destination with the least possible delay. Most of us find it so vitally necessary to attend to our knitting that the big patch quilt of national truck and bus activities is too apt to escape a careful analysis. The preceding facts and figures are presented for brief scrutiny and digestion.

The year 1930 saw the beginning of a new era in highway transport speed. Interstate highways, express and elevated roadways, faster road building, and forward looking traffic control methods are assuring greater speed with safety for the future. Motor engineers in general have kept pace consistently with every demand. The history of each successful manufacturer is a steady succession of conservative developments, and the result is the manufacture of vehicles



1 Ton, 4-Wheel Drive, Assembled Truck

to meet every modern speed requirement. In no instance, however, has speed been the prime consideration.

Very few of these modern vehicles are in the service of the Army. Most all of the motor vehicles now in service are thirteen or fourteen years old. If we are to function properly on "M"-day, certainly a greater percentage of the modern vehicles should be in service if only for instruction purposes, and a rigid course of motor vehicle instruction be instituted for all components of the Army. It is impossible to compare the old F.W.D., Liberty, G.M.C. with the present day F.W.D., Mack, Sterling, G.M.C., White and Garford in the heavy duty field. Many of the new units have eight speeds forward, as compared with the old three speeds forward. This and other new developments must be understood if we are to be able to operate them. Construction and designing over a period of thirteen or fourteen years have greatly changed and every officer must be prepared to meet the emergency. Officers in all branches of the Army must know the intricacies of modern motor vehicles.

Every officer realizes the necessity of getting a given load of supplies, troops, ammunition to a specified



170 H. P., 6-Wheel Drive, Truck with Sterling Motor,  
Assembled in Army Shops

destination in the shortest possible time consistent with safety and economy. We can readily believe that every engineer has worked towards a similar goal in the designing and construction of his particular vehicle. It is the well balanced proportion of Safe Speed plus Capacity plus Quality that makes modern vehicles of transportation efficient in operation and economical in performance. Most of the Army transportation certainly lacks these qualities, but it must be admitted that although old fashioned it has stood up well under years of performance. I believe that about eighty percent of our present equipment could not be repaired without dangerous delay if stocks were not available in storage. Methods of construction have so changed that the manufacturer has discontinued the manufacturing of obsolete parts such as were used in 1917. To have parts specially made is expensive and false economy.

Just what are some of the important details an Army officer should know and be familiar with? Must he be a technical expert or an engineer? He must



7½ Ton, 4-Wheel Drive, Walters Truck (Now Under Test)

not. He should have a basic knowledge of motors, construction, operation and maintenance. Modern inventions in the mechanical field will greatly assist in detecting motor troubles. The highly developed "Motoscope" is an instrument similar to the stethoscope used by physicians. By its use, ignition and motor troubles are easily detected with the slightest delay and an efficient remedy can be applied and the unit put in operation promptly. This is only one example of modern instruments which assist in keeping motor equipment in working order. Every officer should be familiar with lubrication. An old army adage "An army moves on its stomach" can be applied to motor vehicles. "Army vehicles move on their lubrication." An officer can, with the suggestions and recommendations of the manufacturer, familiarize himself with quality lubricants for the vehicle that has undergone factory tests and should see to it that proper lubricants and greases are furnished, or decline to accept responsibility of motor damage when cheap lubricants or greases are substituted. No man-made machine has ever been created that could be stamped "Perfect," yet the best built automotive unit can only give efficient and profitable service if intelligent and adequate thought is given to the subject of lubri-



2 Ton Duplex Truck Towing Sound Locator M1  
(Adopted as Standard)

cation. When we consider that from 60 to 80 percent of the troubles of a gasoline engine can be traced to improper lubrication, and that more than 30 percent go for replacement parts and then consider the low cost of operation, which is 2 to 4 percent of the total cost, it certainly is evident what an important factor proper lubrication is. A thorough understanding of the ignition and electrical systems is also important and should receive the careful study of all officers.

It may be assumed that all these matters will be cared for by the Quartermaster or Motor Transport troops, but this does not relieve the combat arm from responsibility or a failure to be familiar with modern motor transportation. The officers of the Infantry, Cavalry, Field Artillery, Coast Artillery, Special Troops, Air Service and Trains will all have plenty to think of in the next affair, but one of the outstanding demands will be, "What do you know about modern motor transportation?" Every one of us, therefore, must give the modern vehicle careful thought beyond the motor vehicle we have at the present time. "Wooden guns develop wooden soldiers" and consequently 1917 models of motor transportation do not develop 1931 models of trained officers or enlisted men.

In conclusion I believe that Modern Transportation and Mechanization must be given as much attention as the drill regulations, for if we are to succeed on a speedy scale in the next affair, we must be able to "go places and do things" and be prepared to snap out of it and "get to other places to do other things."



Diamond T 4½ Ton Truck Carrying Self Contained AA  
Machine Gun Unit

# Industry and National Defense

## III<sup>(1)</sup>

*Major General George Van Horn Moseley, U. S. A.*

OUR business men, like all other American citizens, have a vital interest in preventing any unusual upheaval in the normal economic life of the nation. The philosophy of modern industry is that earnings are increased through sound and far-seeing management, continuity of progressive policy, and national prosperity. Large scale production for future use must be based on accurate calculations as to future demand. War disrupts foreign trade, upsets the best conceived production and sales programs, and eventually saps the purchasing power of the country. Certainly industry as a whole—and by industry I mean all actually productive units of our country—has no more desire for a repetition of its World War experience than have our other citizen groups. Proof of this is furnished by the voluntary cooperation of industrial associations with government officials in efforts to devise a reasonable plan for the control and efficient utilization of the nation's industries and other resources in any future emergency. Such a plan contemplates almost the exact opposite of what happened in 1917.

In the development of a plan for industrial mobilization, our first concern must be that all measures proposed will be workable in war. The plan must contemplate the most efficient use of existing assets, and take advantage of the industrial methods we have developed during years of peace. In war every man must do the job for which he is suited, but he must do it for the nation rather than for himself. This axiom applies to organizations and groups as well as to individuals. The primary business of armed forces is to fight; the primary business of industry is to produce.

The problem of mobilizing industry in war divides itself into four logical steps. These are: (1) Proper distribution of initial war orders; (2) Analysis of the anticipated effect of emergency conditions and the munitions program on the normal business processes of the nation; (3) Preparation of a broad plan designed to lessen these effects where they are detrimental to the nation's interests; (4) Making provision to set up an organization which can administer this great undertaking.

The first and most pressing need of the country in material things, in an emergency, would be munitions to equip and supply the men called to the colors. Both land and sea forces would have urgent need of the weapons, ammunition, and other combat appliances which alone can enable them to meet an enemy on equal terms.

The munitions problems of the Army would differ somewhat in essential details from those of the Navy.

One of the chief reasons for this difference is that the peace time strength of the Navy is necessarily nearer its actual combat strength than is that of the Army. If the Navy were called upon to meet an enemy in a decisive engagement in the first year of a war, its strength in big ships could not be more than that of the peace time establishment. On the other hand, the Army would begin to expand immediately upon the declaration of war, and its strength in actual fighting units within eight to ten months would in general be limited only by the ability of the nation to furnish the necessary munitions. Nevertheless, the major principles applicable to the problems in both services are identical, and no attempt is here made to differentiate between the general methods proposed for their solution.

The National Defense Act of 1920 charges the Assistant Secretary of War with the "assurance of adequate provision for the mobilization of matériel and industrial organizations essential to war time needs." While it may appear that because of his official position his inclination would be to treat the question solely from the viewpoint of the Army, in actual practice this can never be the case. In other words, the Assistant Secretary of War has not fulfilled his public function when he has made arrangements for the procurement of Army supplies. Rather, he must consider all phases of the whole industrial mobilization problem.

An examination of the procedure under which the Assistant Secretary of War is carrying out his assigned mission will demonstrate the exactness of detail characterizing his plans for army procurement, and the comprehensive scope of the program for meeting the other essential phases of industrial mobilization.

Rock bottom of the procurement plan is, of course, the estimate of the amounts and types of munitions needed by the nation in a major emergency. This estimate is prepared by military staffs, based on the military operations we would undertake under given conditions. After the amounts and types of essential munitions have been determined, the next step is that of making detailed arrangements for their production. Due to the great number of different items involved, the size of this country, and the thousands of industrial activities in it, this step demands some decentralization in execution.

For this reason, the United States has been divided into fourteen districts and, in these, resident business men—called district chiefs—have been selected to represent the army procurement services. Tentative

(1) The first and second articles of this series appeared in the COAST ARTILLERY JOURNALS for January and February, 1931.

orders for the production of munitions in war are being apportioned by the supply services to the various districts in accordance with their productive capacity. This process of distribution is continued on down the line to individual establishments. In each case the district chief, or his representative, and one of the factory executives cooperatively determine the suitability and capacity of the factory for a specific kind of production. The final step in the process is the consummation of a "gentleman's agreement" that in the event of an emergency the particular facility would undertake the manufacture of certain amounts of the specified item. The agreement never involves more than 50 per cent of the normal capacity of the plant. This makes the task of passing from peace to war activity, and vice versa at the close of the war, much simpler for the factory. The unused capacity of the factory is also an advance guarantee of a factor of safety for war production. In peace no mention of prices is made in these agreements. In the event it becomes necessary to begin emergency production, that question will be settled by negotiation or by legally constituted agencies, under such directives as may be given by Congress.

In the aggregate these agreements make up the army program for initiating munitions production. There is no need to discuss the manifold administrative and technical details. Above all it must be understood that the plan does not contemplate the taking over and operating of industrial facilities by the government. Responsibility for actual operation remains with the plant executives. Any other system would fail to take advantage of their demonstrated efficiency.

A few figures may indicate the amount of detail involved in the program outlined above. We have calculated that the army would need 26 million pairs of shoes in the first twelve months of a general mobilization. Similar calculations have been made for 16,808 other classes of equipment. The capacity and suitability of 14,854 factories and other facilities have been determined, and 10,398 specific agreements have been made with industrial plants. I cannot over-emphasize what these accomplishments, performed at a relatively trifling cost, may some day mean to the nation. They have been made possible by the co-operation of civilian associations and various government departments with the officials legally charged with the work. The orderly procedure here contemplated is a far cry from the confusion, interference, and misunderstanding that characterized our efforts to procure munitions during the early months of our participation in the World War.

Were all these detailed and specific arrangements the complete story of an efficient industrial program, the whole problem would be a comparatively simple one. But no matter how efficiently the war load is apportioned to industry, waves of interference in secondary requirements are created. Take two such apparently different essentials as wool and surgeon's sutures. This country imports over 50 per cent of its wool, and in the event of war, a strict conservation program to prevent waste of wool and slaughter of

sheep would be necessary to insure an adequate supply. On the other hand, surgeons' sutures, an equally essential item, are procured from the entrails of sheep. These requirements, involving conflicting programs in the livestock industry, are but a minor example of the many cross currents in secondary requirements set up in case the production of munitions is begun.

Here, then, we leave the relatively narrow field of planning for the actual procurement of finished military supplies and begin to deal with those broader questions which, in war, concern the industrial and economic factors of the whole country.

Interferences become most serious at those points where there will probably be a shortage in labor, money, manufacturing capacity, power, raw materials, or transportation. Each essential element must be at the proper place at the proper time. Analyses must be made and plans perfected to guarantee that this condition will actually obtain. These analyses, coupled with the lessons gained from past experience, indicate some of the broad controls the government would have to exercise in war. Let us briefly consider a few of them.

The detailed industrial survey made in each district discloses, among other things, the additional amounts of labor necessary to place in operation the tentative agreement with each factory. Upon the outbreak of a war, we should avoid the shifting of large numbers of workmen from one section to another; the shifting of labor would entail additional housing and construction programs. The munition plan must be studied with this in view and, when necessary, revised to throw a greater part of the load into those procurement districts where labor is plentiful. Many other serious questions involving labor are bound to arise in a grave emergency. Some of the angles of the labor problem being studied are the probable availability of skilled workmen for greatly enlarged or new activities, regulations to prevent the stripping of labor from essential facilities, methods for concentrating labor at necessary points, and so on. During these studies labor leaders are consulted and their views are incorporated into the plans dealing with this subject.

Another essential study is that dealing with raw materials. It is one thing to place a huge order with a large manufacturer; it is quite another to show that he can be assured a continuous flow of the necessary raw materials to fill that order. In many cases there would be no difficulty because of our wealth of natural resources. But manganese, tin, rubber, iodine, wool, and others—making a list of over twenty in all—would be extremely difficult to obtain should the enemy seriously interfere with our overseas commerce.

Thus, we find the Assistant Secretary of War interested in measures to insure an adequate supply of these critical raw materials in war. These measures include conservation programs, plans to insure the arrival at our ports of essential raw materials, and the development of satisfactory substitutes.

A conservation program may include the use of reclaimed and salvaged material, and the reduction of

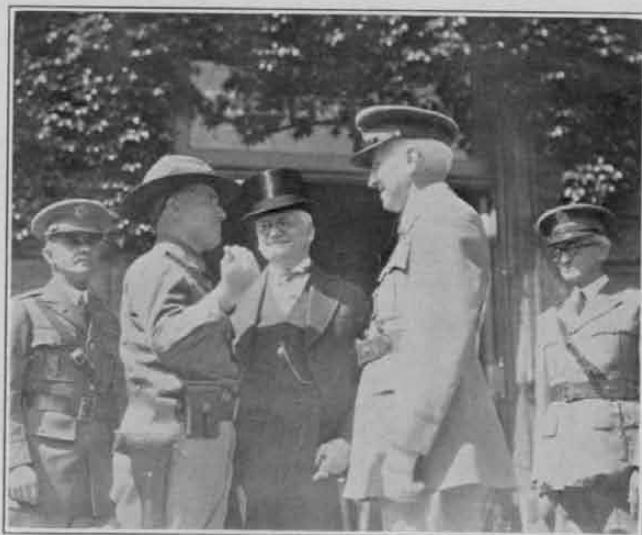


general consumption by the public. Rubber is one item in which conservation would be particularly effective. Manufacturers are now using reclaimed rubber in many articles. This practice would be greatly extended under the pressure of emergency conditions. Use of rubber on pleasure cars could be considerably reduced through patriotic appeals to the public. Such measures would go a long way toward conserving rubber to meet war time needs. In addition, practical experiments are being made within the United States in the growing of various plants and shrubs from which rubber can be extracted.

Certain amounts of essential raw materials might be secured by governmental purchases through neutral countries. Embargoes could be placed on certain exports either to effect a direct saving in materials or to withhold necessary items from some neutral until she could be forced to furnish us with some item we

desired in exchange. To determine in war what is essential in the lives of our people and what is not, to arrange for certain imports and to place embargoes on certain exports—these and other complicated questions are part of the industrial mobilization problem.

The Assistant Secretary of War, in view of the mission assigned him by law, must work out plans and methods, and keep them ready to turn over to such agency as may be set up in war by Congress and the President to handle these matters. He must keep in touch with scientific developments, particularly those that tend to diminish our dependency upon imported raw materials. Above all he must maintain contact with other governmental agencies and with industry as a whole. Their cooperation is most helpful in devising plans, and should the execution of these plans become necessary, their coordinated efforts would be essential.



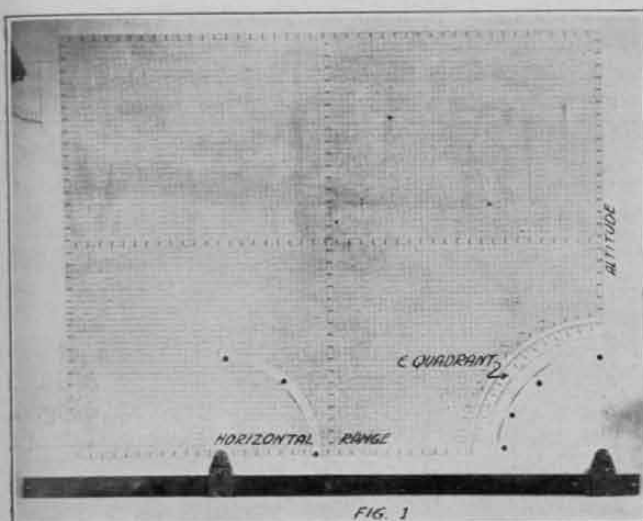
Major Cunningham in Conference With Governor Pollard and General Gulick at Richmond

# An Antiaircraft Plotting Board

By Staff Sergeant H. W. Conklin, 61st C. A. (AA)

A PLOTTING board for use in plotting Antiaircraft Target Practice has been developed in the 61st Coast Artillery (Antiaircraft) and has proved such a success that the description of it is passed on to the service with the hope that it will prove as valuable to other antiaircraft regiments as it has to this one.

The latest Training Regulations on Coast Artillery Target Practice, TR 435-55, June 20, 1930, par. 35, 1,



(5), (b), 2, states ".....a mine plotting board is used.....in which the horizontal projection..... is reproduced."

These Regulations were based on the equipment in use by the 61st C. A. (AA) during the antiaircraft test firings at Aberdeen Proving Grounds in the fall of 1929. A part of that equipment was a mine plotting board. Under the conditions that exist during the test firings, such a board fulfills the mission admirably. On the other hand, a board of the weight and bulkiness of the mine plotting board (about 600 lbs.) is not the best equipment for a mobile Antiaircraft organization. This board was designed for permanent installation at a permanent post and is too heavy and cumbersome to be readily moved about by a regiment that does considerable travelling.

Before the tests of 1929 were completed, rumor was rife that the 61st C. A. (AA) would change station in the spring of 1930. As time went on this rumor became a certainty, and it was also learned that the statistical section would be a part of the detail that would go to Camp Knox, Kentucky to assist in the training of the civilian components of the Army.

With such a move in the offing the question of a plotting board of lighter weight presented itself. After considerable thought and study of the problem, a board was devised that is much lighter and contains in itself

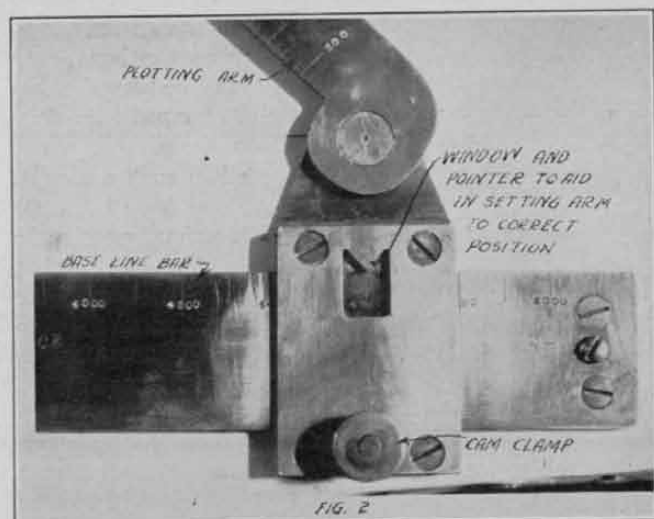
all the charts and devices for plotting an AA target practice. At Aberdeen three plotting boards were used, one for each step in the process. This board contains all three steps, so that it not only does away with the excessive weight of the mine plotting board, but it also cuts down the number of boards from three to one.

It consists of a device for plotting the horizontal projection of the course, which is superimposed upon the chart for the solution of the right triangle. At one end of the board is placed the protractor chart where the situation at the target is reproduced and the actual fall of the shots are plotted.

This board was used in plotting the annual target practice of the 61st C. A. (AA) in April, 1930, the practice of the Coast Artillery School at Fort Monroe during the same month, and the practices of the ROTC and ORC at Camp Knox during July and August, 1930. These practices have served to give it a thorough test, and it has proved itself to be efficient, accurate and a time saver. The saving in weight and space in transporting is a large item in its favor.

## CONSTRUCTION OF THE BOARD

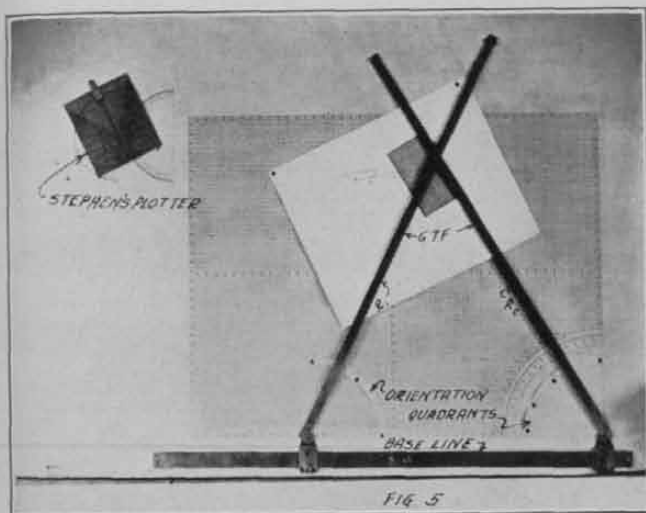
A piece of linen back drawing paper was first mounted on a board 60 by 72 inches. (A board 40 by 60 inches would be large enough. The reason this board was used was because it was available.) On this was constructed a co-ordinate chart to the scale of 200 yards to the inch (least graduation 20 yds.), the origin



being about four inches inside the lower right hand corner of the board. To facilitate reading the board, the lines representing the even hundreds of yards were drawn in black, and the intermediate lines in red. The size of this chart need be sufficient only for an Altitude of 6,000 yards and a Horizontal Range of 8,000 yards. About the origin was constructed a quadrant with a



an idea of the completed board.) A line drawn between these two points will be the horizontal projection of the course flown. Along this line are plotted the groups of shots and the data from the mid-points of the groups



obtained. (See TR 435-55, Fig. 13). The Horizontal Ranges to  $O_1$  and  $O_2$  are read from the arms, and the GTF angle may be read by means of a protractor laid along one arm, the center being at the intersection of the arms, and the angle read where the other arm crosses the edge of the protractor. This method is faster and just as accurate as that of drawing the  $O_1$  and  $O_2$  lines and reading the angle later, although there is no means of checking the reading of the angle except by a replot of the course.

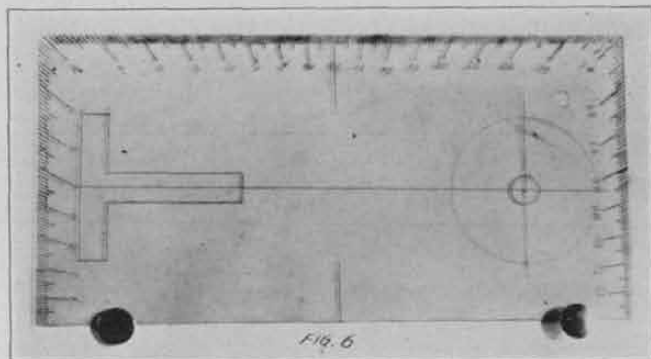
A good protractor for this work is one of rectangular shape 4 by 8 inches, graduated in mils. It is constructed of celluloid and can be made in the regiment. The hypothetical target is marked on it to aid in determining the possibility of hits from the plot of the bursts. See Fig. 6.

The next step is to reduce all the Horizontal Ranges just found to Slant Ranges. The paper on which the Horizontal Plot was made is removed and we return to the co-ordinate chart. With the Slant Range set at the intersection of the given Altitude and Horizontal Range lines, the required Slant Range is read from the arm. These Slant Ranges and the deviations Above and Below, Right and Left, as obtained from the camera

records are used in determining the deviations in yards from the battery.

The remaining step is to determine the Overs and Shorts. A piece of tracing paper is tacked to the board over the protractor chart at the end of the board. A line from the center of the protractor (which represents the position of the target) to the zero of the protractor is the  $O_1$  line. From this line the GTF angle is laid off and the  $O_2$  line is drawn. From these lines the rights and lefts from  $O_1$  and  $O_2$  are laid off by means of the Stephens Plotter for AA Bursts. The intersections of corresponding lines from both stations determine the horizontal projection of the bursts. The method of plotting these bursts is explained in TR 435-55. After the horizontal projections of all bursts in the group have been plotted, the Angular Height line is drawn, being laid off from the zero the given amount, and from this line the aboves and belows are plotted. A vertical line from the horizontal projection of the burst intersecting the corresponding line as just laid off will determine the vertical projection of the burst. The deviation Over or Short is scaled from this point to the normal to the Angular Height line.

This board has proved very successful and is recommended to all Antiaircraft organizations with the belief that it will prove as satisfactory to them as it has to the 61st C. A. It is not a difficult board to construct,



and if it is not possible to obtain a base line bar, as we have done, pivots fastened to the board at the proper base line length will answer the purpose just as well. In place of the brass arms, celluloid or xylonite arms might be used, although these arms are too flexible to give a very high degree of accuracy.



# Harbor Defenses of Long Island Sound

By Col. C. H. Hilton, C. A. C.

THE present Harbor Defenses of Long Island Sound consist of Forts Wright, Michie and Terry, all in the state of New York.

Forts Wright and Michie deny the entrance to Long Island Sound to enemy vessels attacking from Block Island Sound, the name given the waters lying to the eastward of the fortifications and extending out to the Atlantic. Fort Terry partially covers the "Race" and the narrower entrance known as Plum Gut. An enemy naval force, desiring to strike at the naval establishments, commercial shipping bases, and industrial centers along the Connecticut seaboard of New York City, must of necessity move their capital ships through the "Race" and encounter the fire of the heavy armaments of Forts Wright and Michie from each side. The armament at Fort Terry is intended more for the prevention of smaller vessels passing through Gardiners Bay, to the south, and the narrow waters of Plum Gut into Long Island Sound than participation in the first line defense of Forts Wright and Michie.

When these defenses were completed, about 1900, there were three other forts in the chain of defense: Fort Trumbull, a closed fort of masonry, of pre-civil war construction, on the west bank of the Thames River, at New London; Fort Mansfield, with two modern earth-work batteries, situated at Watch Hill, at the eastern entrance of Fishers Island Sound and about five miles eastward from that island, and Fort Tyler, an old type, masonry closed work built on ripraps in the shallow water just off the north-west point of Gardiners Island, which lies close to the Long Island shore. Fort Tyler is about four miles from Fort Terry.

Fort Trumbull was used in 1902 and 1903 as the headquarters post of the harbor defenses or district, as it was then called. It was afterwards garrisoned by a small detachment until 1910, when it was turned over to the U. S. Coast Guard and has been used since by that service as their Academy. Fort Mansfield was relinquished by the Coast Artillery about 1911, and is now used for park purposes. Its purpose was to protect the entrance of Fishers Island Sound from ingress of small craft. Fort Tyler was intended as a defense of Gardiners Bay, whose waters lie between Plum and Long Islands. This fort was ceded back to the state of New York in 1924, there being no further military need for it, and is now known as Gardiners Point Park, under control of the New York State Park Commission.

It is interesting to trace back the connection between the present system of harbor defense (not the latest it is true, but modern) with the earlier or original installations. In this case there has been no exception to the general rule that, as the range and power of naval and seacoast guns has increased, the fortifications have moved out from the inner harbor, where round balls were used against wooden ships, first, to the

entrances to the harbors and then to points away from the entrances. Long Island Sound is particularly interesting in this respect since a system of harbor defense for New London, Connecticut, was completed in revolutionary days, when Forts Griswold, on the east shore of the Thames River, and Fort Trumbull, on the west bank, were constructed. Insofar as the writer has knowledge there is no record in our history of an earlier attempt at harbor defense from sea attack.

The original Forts Griswold and Trumbull were built in 1774—Griswold, on a high hill on Groton Heights on the east side of the Thames, and Trumbull on low ground on a small projection into the river, a bit toward the entrance from the town of New London. Each was an earth work, open to the rear, in which some flat rock revetments were used in the front walls and passages. There were the customary magazines and bomb proofs found in fortifications of this period.

*The original Fort Griswold still remains with almost no change* and is well worth a visit from anyone interested in our early history, or even for the beauty of the view to be had from its elevated position. The site of the original Fort Trumbull was used in 1838 for the construction of the new fort, which still remains, and of which more will be said later. The two fortifications, with their American garrisons, guarded New London from 1774 until 1838, and during this period there were several occasions when their value as a harbor defense was put to account. The most notable of these was the capture and destruction of New London and Groton by fire by British troops under the leadership of Benedict Arnold.

On September 6, 1781, with "thirty-two sail," Arnold entered the river and disembarked troops on both the New London and Groton sides. The garrison at Fort Trumbull was easily driven out by an attack from the rear of the fort and, after spiking their guns, crossed the river in small boats and joined the garrison at Fort Griswold. New London was destroyed by the main body of British troops under the direct command of Arnold, but the smaller British force sent to Groton met a stubborn resistance in their attempt to capture Fort Griswold. However, after several assaults launched against the front of the work, they gained an entrance and the garrisoned surrendered. The American commander, Colonel William Ledyard, surrendered his sword to the commander of the assaulting party (believed to have been of the rank of Major) who took the sword and plunged it into the body of Colonel Ledyard, killing him. Then followed an atrocious massacre of helpless prisoners. About seventy-five were killed by the sword, bayonet or rifle, within the walls of the fort. Forty-five British soldiers lie buried to this day in a single unmarked grave in the rear of the fort.

The Groton monument, a stone shaft 135 feet in

height, in rear of old Fort Griswold, was erected in 1830 "in Memory of the Brave Patriots who fell in the massacre of Fort Griswold\*\*\*\*\*when the British under command of the traitor, Benedict Arnold, burnt the towns of New London and Groton and spread desolation and woe throughout this region."

In 1813, Decatur and his little fleet of three vessels were closely blockaded by Commodore Hardy and his squadron of British ships. The blockading fleet remained in full view at the mouth of the river for months, but did not come within range of the very weak armament of the two forts. Marauding parties were landed from time to time along the coast. Alarms were frequent and the fear of another landing attack as in 1781 was prevalent in the surrounding community.

A serious attack by a naval force, in this latter part of the war of 1812, seems to have been averted when the attacking force diverted its offensive to Hartford, Connecticut.

The necessity for greater protection became apparent and in 1836 Congress passed an act appropriating money for the construction of two forts for the defense of this locality. These works were completed by 1840, at a cost of \$250,941 for Fort Trumbull, and \$198,000 for Fort Griswold, according to Executive Document No. 5, 32d Congress. It is interesting to note that the amount expended in the construction of each fort agreed to the dollar with the amount appropriated by Congress. This seems to be in accord with modern practice except that nowadays we would probably end up with a deficit.

The new Fort Griswold was built at an elevation somewhat lower than the revolutionary work on Groton Heights, about 150 yards from the old fort and nearer the river. It is open to the rear and the front walls of its parapet are made of granite. The guns were all mounted on top (none in embrasures) and the length of its broken line of parapet is considerable since the original armament consisted of 82 cannon, of various types and sizes, all of which were made in the West Point Foundry.

This fort has not been changed in the slightest, from the time of its construction to the present day, except as to the armament. A visitor will be attracted by the "hot shot" furnace which stands on the parade behind the parapets and is ready to operate again with the building of a fire. The caretaking has seen to it that a stack of round balls (about twelve pounders) are kept nearby and some are in the heating compartment. A pair of heavy Rodman guns lie on the parade. These were probably never mounted. Some half-dozen eight-inch converted rifles are still mounted on a section of the parapet.

Of most interest will be five old type, smooth bore guns, which are all that is left of the original installation. Two of these are found at the entrance to the fort with their trunnions set in blocks of concrete. They are there for ornamental purposes only. Two more of the same type may be seen lying on the ground behind the parapet. These four guns are of about six-inch bore, or thirty-two pounders. They were

made at West Point in 1830. The marks "WPF 1830" are found on the trunnions, while on the muzzles are found "I B No 43," "I B No 45," "I B No 61" and "I B No 88." The numbers are undoubtedly the serial numbers of the gun, but the "I B" is not understood by the writer. They are supposed to be either the initials of the inspecting officer at the foundry, who was Colonel Bankhead, or information concerning a characteristic of the bore. It is possible that in those days, in the manufacture of cannon, a departure may have been made from a true cylindrical construction and the bore choked or inclined, which would account for the "I B." The cascabels (knobs on rear of gun) of these four pieces bear the marks "(2)" "(3)" "(2)" "(3)." These marks are stamped on brass inserts and are supposed to have been the tactical numbers of the guns in their batteries. The fifth piece is located in rear of the parapet and rests on its original top carriage. It was made in 1828 at West Point, is also a thirty-two pounder, bears the muzzle marks "I B 156" and while muzzle loading, has eight lands and grooves running straight up the bore without twist.

The new Fort Trumbull, on the New London side, is an enclosed work of heavy granite slabs of the type common to this period. It appears to be an exact duplicate of Fort Gorgas in Portland (Maine) harbor. Its original armament consisted of 88 cannon of all types and sizes. Not one of these guns could be found—probably having been sold for junk iron years ago. The only cannon remaining are two eight-inch converted rifles (built about 1870) mounted on their carriages and sited outside the battery on a slope looking toward the river entrance. They are retained for ornamental purposes only. A small, rough stone block-house standing a short distance from the fort, built in 1776, is the only structure remaining to indicate connection with the revolutionary period. Fort Trumbull is a fine example of the mason's art and a visitor will be interested in the great thickness of its walls and especially in a spiral staircase in one of the towers. The steps or risers are of thin hewn granite, each step extending from the thick masonry circular wall to the center, where a vertical metal post perforates the small ends and holds them in place.

As has been stated, the new Forts Trumbull and Griswold were completed in 1840. The records show that all guns to be emplaced in both forts were received by December 31, 1841, and that the first target practice was held at Fort Griswold on July 11, 1843, by a battery of the 2nd Artillery (letter unknown), stationed at Fort Trumbull. The above information was gained from an old record of firing recently found at Fort Wright and which is now in the library of the Chief of Coast Artillery where it may be read by anyone interested in the almost primitive artillery methods of that period. This record indicates that Fort Trumbull only was garrisoned, but that target practices were about equally divided between Trumbull and Griswold.

The reports of target practices in 1843, 1844 and

1845, are signed by Charles S. Merchant, Captain 2d Artillery, Commanding Post. A report for July, 1845, is signed by Jas. Totten, 2nd Lieut., 2d Artillery.

Company A, 3rd Artillery garrisoned Fort Trumbull next, and target practice reports for 1849, 1851, 1852 and 1853 were all signed by George Taylor, Capt. and Bvt. Major, 3rd Artillery. In two cases they were also signed by F. S. Kelton, Lt. Col. 3rd Artillery, and Brevet Colonel, Commanding.

A and F Batteries, 1st Artillery apparently garrisoned Fort Trumbull in 1866 and 1867, and fired target practices from that fort only. The records of these firings were not so well kept and are unsigned. They are the last in the book.

M and C Batteries, 1st Artillery, garrisoned Fort Trumbull 1875 to 1881, when M Battery, and possibly both batteries, were moved to San Francisco. This information was had from Sergeant Thomas Bracken, U. S. Army, retired, who was First Sergeant, of M Battery during its tour at Fort Trumbull. He married while serving at that post and his daughter is the wife of Sergeant John C. S. Wessell, U. S. Army, retired, caretaker at Fort Griswold, to whom the writer is indebted for considerable assistance and information. Sergeant Bracken is now living at No. 17, Carroll Court, New London, Connecticut. He is now eighty-six years of age, well preserved and mentally alert. He informed me that during the time his battery was at Fort Trumbull they never had target practice but fired a salute each fourth of July from the "great gun" battery—meaning the 8-inch, con-

verted, battery. He stated his battery commander was Captain Tully McCrea.

In 1899 and 1900, I Battery, 4th Artillery, garrisoned Fort Trumbull, and in 1901, became the 43d Company, Coast Artillery Corps. Fort Trumbull was used as the Headquarters Post of the Artillery District of New London during 1902-1903. After the transfer of the Headquarters to Fort H. G. Wright (Fishers Island), Colonel C. D. Parkhurst, District Commander, established at Trumbull the office of the District Quartermaster. This office had charge of the harbor boats and handled the receipt and distribution of all freight for the various forts (H. G. Wright, Michie, Terry and Mansfield). The personnel consisted of an officer, a civilian chief clerk, other office personnel and an enlisted detachment of approximately fifteen men.

In August, 1907, the 132d Coast Artillery was organized. Due to shortage of quarters at Fort Wright, the company was quartered at Fort Trumbull under the command of Capt. H. W. McCauley (now Colonel, retired). In the summer of 1909, the Office of District Commander was withdrawn, and the company moved, to Fort Wright—the post was transferred to the Coast Guard and Fort Trumbull ceased to exist as an Army garrison or post.

The designation of the 43d Company, C. A. C., is now Battery I, 4th Coast Artillery, stationed at Fort Amador, C. Z. This battery is the winner of the Knox Trophy for excellence in artillery practice during the period ending June 30, 1930.



Fort Trumbull, New London, Connecticut

# Intramural Athletics at the United States Military Academy

Major General William R. Smith, Superintendent, U. S. M. A.

"Upon the fields of friendly strife are sown the seeds  
That, on other fields, on other days, will bear the fruits of victory."

BOTH the Military Academy and the Army have always indulged in some form of gymnastic or compulsory physical exercises in the form of drills, equitation, or calisthenics. In 1885 at West Point fencing, swimming, and gymnastics became part of the course of instruction. Boxing and wrestling were added in 1905. With our entry into the World War, military authorities realized that this program, especially in so far as it affected the soldier, must be enlarged materially. We realized that it was unsound to permit athletic training outside of calisthenics and drills to be restricted to a few natural athletes who could make the company or regimental team. It was obvious that the physical endurance, stamina and other virtues enhanced through participation in athletics must be spread throughout the entire command. The body of the youngster who for some reason was not athletically inclined required attention far more than that of the man who was constantly engaged in sport. Therefore the entire Army, in so far as training schedules would permit, engaged in various games and contests with most beneficial results.

In 1920 the present Chief of Staff, General MacArthur, was Superintendent of the Military Academy. Appreciating the importance of athletics he immediately took steps to have an extensive intramural athletic program adopted as part of the compulsory course of instruction for every cadet. The objective in view would not only develop the physique of cadets together with other qualities which go hand in hand with sport, but, of far greater importance, provide the Army with officers qualified to coach and train

soldier teams. During the past ten years General MacArthur's program has been thoroughly tested and reports from the Army at large indicate that young



"Plebes" in the Gymnasium

graduates of West Point have improved the quality of soldier athletes in every respect.

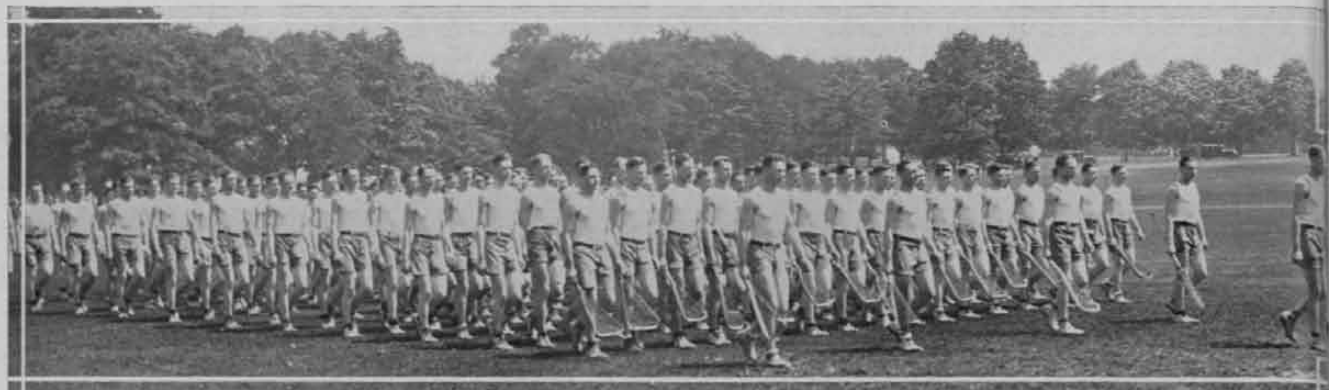
Our intramural system has been extended and enlarged so that it is now unsurpassed by any educational institution in the country. Our aim is "every cadet an athlete," and that objective is reached by close supervision and expert coaching.

There are three intramural seasons, one of which, the summer period, is held five days a week for a period of six weeks and is given to "Plebes." The new class of incoming cadets is organized into six companies, each of which devotes one week to baseball, football, lacrosse, basketball, soccer, and track. In addition to the regular coaches, approximately twelve letter men or especially qualified cadets assist in the training. Furthermore, either an officer or an athletic



A Group of Intramural Squads Return to Barracks After Practice





The Athletic Review. The Intramural Lacrosse Contingent Approaches the Reviewing Stand

instructor is placed in charge. This intramural program provides a welcome break in the strict military schedule that the new cadets undergo, and is most beneficial.

The regular intramural seasons for the entire Corps of Cadets extends approximately from September 1 to November 1 and from April 15 to June 1. During these periods each cadet who is not a member of a corps squad [varsity] then in training, is required to alternate each day, attending drill one day and athletics the next. The period of instruction is from 3:15 to 4:30 P. M. The cadets thoroughly enter into the spirit of the intramural contests and the keenness of competition is best indicated by their nicknaming the instruction "inter-murder."

As the primary purpose of the system is to give to each cadet a working knowledge of as many sports as possible, it is essential that each season he be assigned to a different athletic activity. In general a cadet is not permitted to select a sport he desires, but is assigned by his company commander. Cadets in the

graduating class, however, who are not being used as coaches are usually assigned to golf, tennis or polo, sports in which they will engage as officers for recreation and exercise. Cadet coaches in the graduating class are assigned to the major intramural sports which are football, basketball, lacrosse, baseball, soccer, and track. This coaching is considered as part of their professional training to be officers.

During the Spring the intramural sports are baseball, soccer, track, tennis, golf, polo, and swimming. During the Fall they are football, basketball, lacrosse, swimming, tennis, golf, fencing, polo, gymnastics, and cross country.

Without the support of the Army Athletic Association it would be impossible to carry out the present extensive intramural program. The Army Athletic Association has not only provided various athletic facilities such as a new polo field, three new baseball diamonds, and nine tennis courts, but also furnishes a vast amount of equipment and uniforms, and the necessary civilian employees.



Quantity Production of Wrestlers at Intramural Instruction



# Renovating Seacoast Ammunition

Major R. T. Gibson, C. A. C.

**T**HIS article is not intended to show the what, when, where, how and why of the renovation of ammunition, but to give a solution, more by illustration, of the problem at an inactive harbor defense.

The harbor defense commander of such a harbor defense is often confronted with projects whose magnitude and seriousness are viewed with alarm, considering the small personnel and funds on hand. However, if he takes it calmly and refuses to worry, he will find that the powers who directed such projects have also provided the means to accomplish them.

This was the situation of the harbor defense of Charleston in September, 1930. Faced with the problem of renovating 600 seacoast projectiles, the personnel was greatly relieved to receive notice from Headquarters, 4th Corps Area, that Mr. J. N. Pearre, Ammunition Foreman, had been directed to proceed on or about September 27, 1930, to Fort Moultrie, for the purpose of inspecting, testing and renovating ammunition at that station. Mr. Pearre arrived on schedule, and what more, brought his own machinery and enough funds to hire eight skilled workmen, thus relieving the unemployment situation on Sullivan's Island by one full squad, at least.

Mr. Pearre (Perry) started at once to set up his machinery in rear of A Pit, Battery Pierce-Butler, 12-inch mortars, and by October 1 had the job started. The only requirements on the permanent personnel were one private, Ordnance Department, as assistant, and the use of the post Ordnance Machine Shop for drilling base plugs. Mr. Pearre was assigned quarters in the Bachelors' Building, joined the post mess and soon fitted into the garrison as comfortably as an old shoe.

The work in general consisted in removing the base plugs for modification to receive the Mk X fuse. Then five projectiles in each lot were tested for the density of the charge at different points throughout its depth. If the tests proved low, all projectiles of that lot were deemed poor and were reloaded. The theory of the low density of the bursting charge, as explained by Mr. Pearre, was that during the travel of the projectile, the charge would compress itself toward the base. When the projectile struck, the charge would move forward leaving an air space around the fuse with consequently a possible dud.

The various stages in the operation of renovating the projectiles are shown in the illustrations accompanying this paper. The base covers and base plugs were removed in the magazines, and the samples taken and tested before the operation really commenced. Base plugs and projectiles were stamped with metal dies to insure that the projectile and base plug families would be reunited again.

(Fig. 1) This is a general view of the renovating operations, showing equipment and projectile painting. The painting, completing the operation, was done by hand, as the paint gun was found to be messy and not particularly quicker. A coat of red lead and two of yellow paint were applied, except on target practice projectiles, which were given the conventional black.

(Fig. 2) Showing the cleaning, inspection and painting of the cavity, also a view of the layout. The projectiles were rolled on railway rails, obtained from an abandoned searchlight incline at Marshall Reservation.

(Fig. 3) The machine for removing old explosive from projectile cavities. Two boring blades were required, one for the body and one for the nose of the cavity. Current for electric hand drill was supplied by the South Carolina Power Company. The explosive was burned and new explosive used for reloading.

(Fig. 4) This figure shows the method of washing to complete the cleaning of the cavity. The extension nozzle would reach the nose of the longest shell.

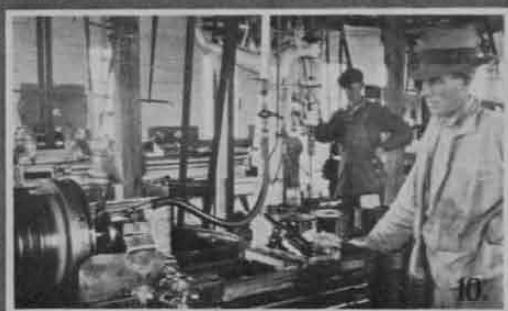
(Fig. 5) The sand blast machine used to clean off all paint and rust spots. Two operations were required, one to operate the air pressure and rotate the projectile and the other to handle the sand blast nozzle. A projectile could be thoroughly cleaned in about two minutes.

(Fig. 6) Showing the method of rotating the projectile while cleaning with sand blast. Operators found it necessary to wear a canvas head cover, furnished with a copper mesh face piece. The sand blast acted more or less like a paint spray, removing paint instead of putting it on. The metal emerged with a slightly frosted appearance, the only drawback being that the copper rotating bands lost their luster.

(Fig. 7) The loading press, the projectiles vise stand and the lift truck. The projectile on its vise stand was lifted by hydraulic pressure against the head of the ram. The ram could be adjusted for the different phases of the loading. The head of the ram had a pressure surface of 88 percent of the cross section area of the cavity. Any less tended to cake the charge in the center. Any more would pack the charge around the outside. A variable pressure of fifty tons and up was used for the different layers of explosive as directed by a guide chart.

(Fig. 8) The hydraulic pump with pipe lines leading to the loading press. The remarkable feature of this machine was the fact that the pressure pipe was constructed from old automatic rifle and machine gun barrels. In the background are seen two milch cows, a labor saving device to keep down the grass around the battery, loaned by the post painter, Mr. Coste.

(Fig. 9) The final operation of loading. The operator on the left is finishing off the charge to fit the



base cover. The operator on the right is using a vacuum cleaner to remove loose explosive before paraffin is applied. The unattended projectiles show the operation of boring the fuze cavity after paraffin has been applied, and the test of the fuze cavity with a dummy fuze, respectively.

(Fig. 10) The above figure shows the operations, in the post Ordnance Machine Shop, of modifying the base plugs to receive the Mark X Fuze, and drilling wrench holes. Rough boring of the fuse seat was done at this machine. Finished boring and threading operations were done at a similar lathe.

(Fig. 11) A lot of projectiles finished and stored. While this is not the conventional method of storing with points to the wall and bases out, it is believed to be the best way for the 700 pound 12-inch projectiles, whose centers of gravity make them difficult to pile on skids. This method, when there is ample room, has the advantage of easy inspection and care, and less area exposed to overhead condensation.

A graphic outline of the operations when they were going good, that is, a maximum of 22 projectiles per day, is shown. An expert might criticize the arrangement by pointing out a three way crossing in the stream. However, there was no interference and advantage had to be taken of what protection was offered by the mortar pit from the elements. Mr. Pearre had designed or improvised most of the equipment himself and carried it with him to each harbor defense requiring his services.

The operations described above were completed by the first of the year. The machinery was then dismantled and packed for shipment elsewhere. In addition to this work, Mr. Pearre had another mission of cutting a groove in rear of the wide rotating bands on all 10-inch projectiles equipped with same. This operation was very simple and need not be described here in any detail. Each projectile was placed

in a lathe and turned against a cutting tool to make a groove of the proper depth. The Ordnance Officer took advantage of this handling to put on a coat of paint before restoring.

The annual inspection of powder was also undertaken under Mr. Pearre's supervision. Test paper was placed in each powder can for 14 to 16 days. Then with an air compressor, each can was tested for leaks. Following this, cans were painted, stenciled and stored by lots.

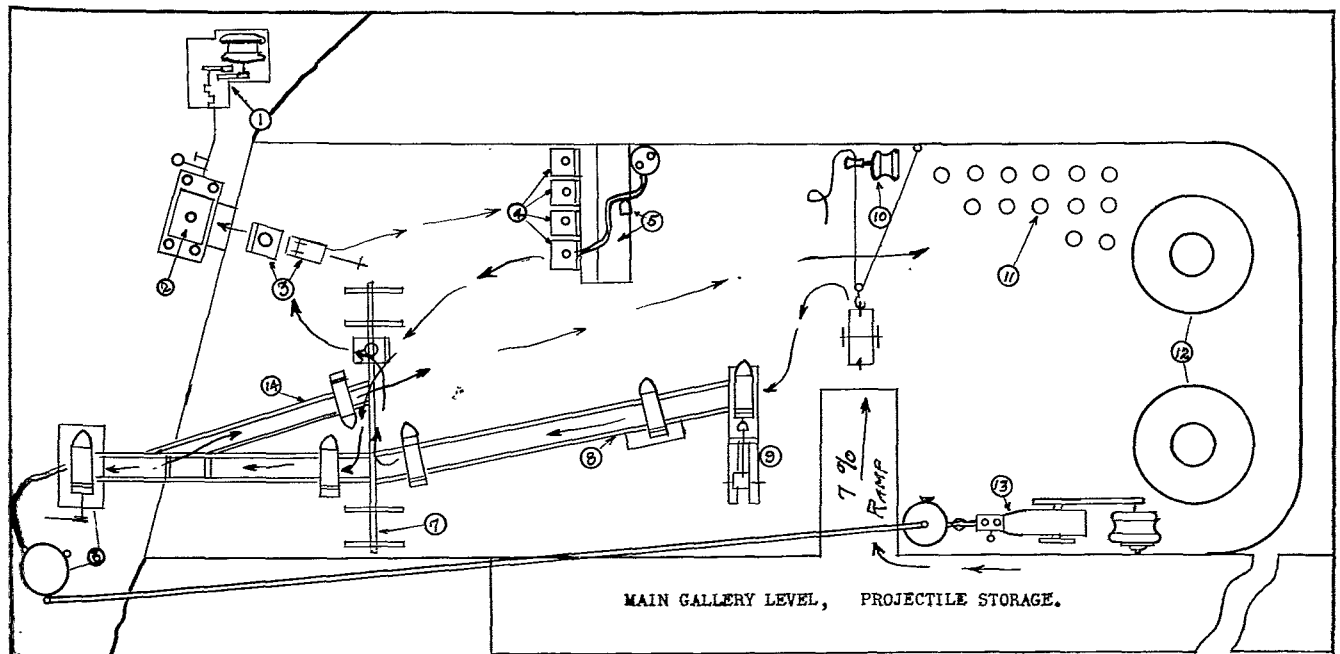
A new innovation in storing the cases of bulk powder was also introduced. The lower tiers of cases were placed with bottoms against the wall and lids outward. The front ends of tiers were raised eight inches by a two by eight. Other tiers were stacked on top, separated by one inch strips. This gave the stacks a quaint, modernistic outline, but facilitated the removal of samples without spilling the grains upon taking off the lids.

Undoubtedly, the work of renovating ammunition is going on in other harbor defenses at this date. The methods used at this post may not apply to others, but should be interesting as a means of comparison. In all, 600 projectiles were modified for the Mark X fuze, and nearly all of the 600 had to be reloaded. The density of loading was to be a minimum 1.35, and few of the projectiles tested up to that. The average density attained by the hydraulic press was 1.42.

While civilians were employed on the reloading operation, the labor of powder testing and storing fell on the members of Battery "D", 13th C. A., the only Coast Artillery troops present.

The Post Ordnance Officer, who also commanded the battery, assisted Mr. Pearre, as needed. The work was inspected both by the Corps Area Ordnance Officer and by a representative from the Chief of Ordnance Office.

Note: Acknowledgment is made to Mr. Pearre for his assistance in preparing this brief outline.



# The Modern Pentathlon

Major General Guy V. Henry, U. S. A.

The Modern Pentathlon appeared on the Olympic Program for the first time in the Vth Olympiad at Stockholm in 1912, and resulted from the desire of the International Olympic Committee to include in the Games a competition especially suitable to the modern sportsman. The event as introduced and as it still exists represents the Committee's conception of the modern Knight. This 20th Century cavalier must be able to overcome all obstacles that may confront him in carrying out his knightly mission. With the pistol or dueling sword he engages in personal combat; with any available horse he swiftly rides across country; the unfordable stream he swims; and he finishes the journey on foot.

All American and foreign competitors have been drawn from the military services though there appears to be no particular reason why this should be so in the United States, since a great many of the larger universities and colleges have ample facilities for the training of undergraduate competitors. To other civilian athletes there are available the facilities afforded by athletic clubs and fencing organizations. Revolver and pistol practice is possible in most National Guard armories and at various civilian and military outdoor target ranges. A good hunter hack ridden by a rider with a knowledge of pace is all that is necessary for the riding event.

The 1932 Olympic Games are to be held at Los Angeles, California, and to the end that the representatives of America at this Olympiad may be the best possible, the special committee appointed by the American Olympic Association to select the three American pentathlon competitors is appealing to every athletic organization, collegiate or otherwise, to assist in securing candidates for this competition. Particularly is this committee interested in possible competitors at universities having mounted military units and fencing facilities, not only for 1932 but for future Olympiads. Plans have already been perfected for securing the best available competitors in the Army, the Navy, and the National Guard.

## QUALIFICATIONS AND PREPARATION FOR THE MODERN PENTATHLON

The qualifications required by a competitor may be best understood from the following information as to the conditions under which the competition is held:

### Competition

The competition consists of:

**Shooting.** Pistol or revolver, 20 shots at 25 meters in four series of five each.

**Swimming.** Free style, 300 meters.

**Fencing.** Dueling sword (Epée).

**Running.** Cross-country, 4000 meters.

**Riding.** Cross-country, 5000 meters, over changing ground and obstacles.

One event per day on successive days.

### Special Regulations

**Shooting rapid fire, 25 meters.**

**Arms.** Revolver or pistol of any make or caliber with open sights. (Special stocks forbidden.)

**Number of Shots.** Two sighting shots and 20 record shots in four series of five each.

**Target.** Silhouette figure, divided into zones, 5 feet, 6 inches in height, 20 inches wide, as illustrated.

**Initial Position.** Arm down, the muzzle of the weapon pointed at the ground, the stock of the gun touching the thigh.

**Firing.** Two sighting shots are desired by the competitor.

Record shooting commences at the command of **Fire**. The use of two hands is forbidden. When the command is given, the target appears for three seconds, then disappears for ten seconds, one shot at each appearance of the target. The shooting continues in this manner for five shots, except that the initial position is required for only the first shot of each series. The target is marked after each series. Scoring rules of the International Shooting Federation govern, which are the same as the American except that all competitors with 20 hits are rated higher than those with 19, competitors with 19 hits rate higher than 18, and so on. In case of ties in total hits and score, the greatest number of 10's decides; if the tie persists, then the number of 10's in the last series; then the number of points in the last series; then the 10's in the next to last series; then the points in the next to last series; and so on. Should the tie persist through the entire score, the points are halved.

Good score, 170. Excellent score, 190.

**Swimming (300 meter course, free style).** The usual swimming regulations, except that the competition is by heats without finals, with the result determined by time alone. In case of a tie in time, the place is divided.

Good time, 6 minutes, 20 seconds. Excellent time, 5 minutes, 20 seconds.

**Fencing.** The dueling sword. The usual fencing rules with the following exception:

The fencers eliminated in any round, and having the same position in their respective pools, for instance, Numbers 6, 7, etc., will fence a barrage until they have been classified. The general classification of the eliminated fencers is arrived at by placing the

Numbers 6 of the various pools before those having the Number 7, the Numbers 7 before the Numbers 8, and so forth.

*Example.* For example, assume that there are 60 fencers.

*1st Round:* Six pools and ten fencers.

Those having the numbers 1 to 5 in each pool pass on the next round. The Numbers 6 in each pool fence



Lieutenant A. S. Newman Hopes that He Can Repeat This Score in Los Angeles. The Sighting Shots are Encircled

together, as well as the Numbers 7, 8, 9, and 10, until a classification is obtained.

In the general classification, the Numbers 10 will have the Numbers 55 to 60, the Numbers 9, 49 to 54, and so on.

In this way, 50 per cent of the fencers are definitely classified.

*2nd Round:* Three pools and ten fencers.

Numbers 1 to 5 of each pool are qualified for the final. Numbers 6 to 10 fence together in the same manner as the same numbers of the first round.

After this barrage, they obtain successively the numbers 16 to 30 in the general classification.

**Cross-country (running).** *Course.* Over broken ground, 4000 meters, the way being unknown to the competitors.

*Starts.* Individual and one minute apart. Time alone to determine the relative place. Ties in time to be disposed of as provided for swimming, above. Order of starting by lot.

Good time, 15 minutes. Excellent time, 13 minutes.

**Equitation.** Starting order by lot.

*Habits.* For officers, undress uniform. For gentlemen, hunting costume.

*Weight.* The weight will be 165 pounds, exclusive of saddlery.

*Horses.* Good strong hunters hack, supplied by the Committee; flat saddles. Drawn by lot.

*Course.* The course will not be more than 5000 meters in length. It will be shown not later than the day before the event. The obstacles (natural and artificial) will be marked by flags between which the rider must pass. The obstacles will be not more than 3 feet, 6 inches in height, nor 12 feet in width.

*Start.* The start will be individual and five minutes apart.

*Speed.* The speed will be 450 meters per minute. All exceeding the required time will be penalized a half a point for each two seconds lost. During the event the rider may not receive aid from anyone nor wait to make a jump with another rider.

*Points.* Each competitor receives at the start 100 points, from which, in addition to the time penalties above, will be subtracted the following:

- 3 points for the first refusal, or breaking out;
- 6 points for the second refusal, or breaking out;
- 50 points for the third refusal, or breaking out, after which the rider, without having taken the obstacles in question, has the right to continue to the next obstacle, without disqualification;
- 5 points for the fall of the horse or of the horse and rider;
- 10 points for the fall of the rider alone.

The faults mentioned above—refusal, fall of the horse, fall of the rider—will not be counted except within a radius of 25 meters from both sides of the obstacles as marked.

If the rider does not take the obstacles in the indicated order, or if he does not jump or attempt to jump between the two flags, he must recommence his course at the place where the fault occurred. Other-



The Dueling Swordsmen Work Out

wise, he is subject to disqualification for leaving course.

In case of a tie in points, the result will be determined by the time.

Tips, going through or knocking over obstacles are not faults.

*Score.* A properly handled hunter can easily make 5000 meters in less than the required time of 11 minutes.



### Final Standing

The final standing of each competitor is determined by the total of the five places secured in each of the events. For example, competitor "A" is sixth in shooting, third in swimming, third in fencing, fifth in



Training for the Mounted Events, Lieutenant T. J. Sands Up running, and second in riding; his final score is 19. The competitor with the *lowest* aggregate number is first, the next lowest is second, and so on.

### THE CONDITIONS FOR THE MODERN PENTATHLON

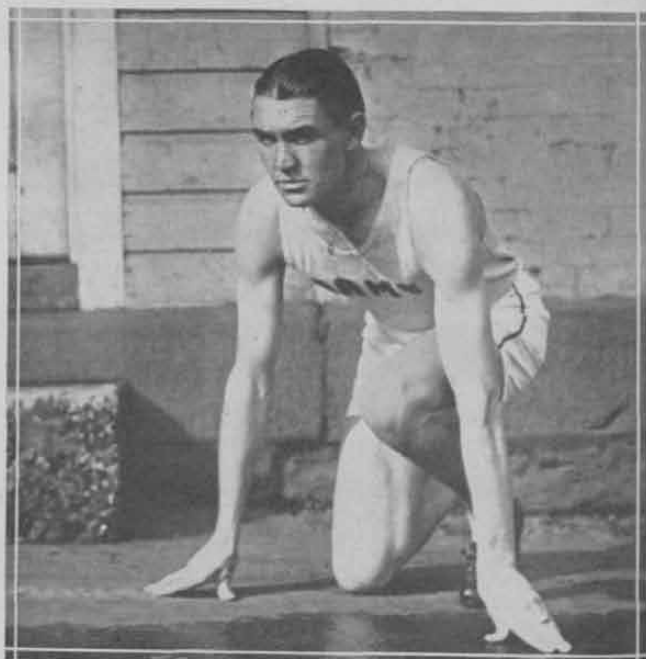
Records of the Modern Pentathlon competition in the Olympiads since 1912 show conclusively that it is truly an all-round event. Many competitors have done extremely well in one or two of the five events but their showing in the other three or four has placed them far down in the final standing. The experience of American competitors training for the team bears this out. It has been found, for example, that a man who starts out with better than average proficiency in three or four of the five events proves a better candidate than one with exceptional ability in one or two of the events only. So firmly does the Committee believe this, that it would hesitate to advise a candidate who is an exceptional swimmer or runner and with no other experience in any one of the various events to try for the team, whereas a natural athlete with above average ability as a runner, fencer, or swimmer, and a good knowledge of two or three of the other events is considered to be the ideal type, *provided* that training is started for considerable time prior to the competition.

The above conclusion is corroborated by the experience of the only civilian to try for the American team in 1928, Mr. Harry Lewis, then a member of the graduating class of Rutgers University. Mr. Lewis, a natural athlete, was a former intercollegiate swimming champion. As a member of the military unit at Rutgers he developed into a fair pistol shot. In fencing and running, while little more than a novice,

he showed marked promise. However, in riding he had no experience except for a short time prior to the competition and then with no trained supervision or suitable mounts. Mr. Lewis did not start training for the event until late in March, 1928, and, while his progress was gratifyingly rapid, he was unable to place high enough in the final tryouts in May to justify his being named for the team. The 1928 Committee felt however that, had Mr. Lewis started his training in the summer or early fall of 1927, he probably would have made the team and proven one of our best competitors at Amsterdam.

Since its introduction on the Olympic program in their native Stockholm, the Swedes have apparently considered the Modern Pentathlon as their own particular event, for they have won the individual and team competition every time, with the other nations constituting the "field." In 1912 America had one representative, Lieutenant, now Major, George S. Patton of the Cavalry, who finished fifth. In 1920, at Antwerp (there was no Olympiad in 1916 due to the World War) Majors H. M. Rayner of the Cavalry and Robert Sears of the Ordnance, who finished sixth and seventh respectively, represented the United States. Our highest competitor at Paris four years later was Lieutenant George H. Bare, Infantry, who finished tenth. In Amsterdam no American representative made the first ten.

It looks from these results as though our representatives have grown progressively weaker. This is not so. Rather, the real explanation lies in the fact that the competition has materially increased. Lieutenant Bare's performance in the VIIIth Olympiad in Paris



Lieutenant Lermord Ready for Start on a Practice Cross Country Run

would have placed him in the first five at Antwerp. In 1928, this same officer, though he performed quite as well as in 1924, was unable to make the American team.

Lieutenant Lindman of Sweden, the individual winner at Paris with a performance that set a new low score for the event, could place no better than third in Amsterdam. Lieutenants A. S. Newman, B. W. Brady, and G. W. Lermond of the Infantry, C. J. Mansfield and W. E. Johns of the Cavalry, R. W. Mayo, T. J. Sands, C. R. Barrett of the Field Artillery, and M. I. Carter of the Air Corps, have already entered for the final try-outs, and it is hoped that there will be additional candidates from the Regular Army. The National Guard and the Navy are being canvassed and, through the professors of military science and tactics at R. O. T. C. units, the Committee expects to interest

promising candidates from these institutions. In short, our Committee proposes to cover the ground so thoroughly and in such detail that no athlete whose ability warrants his consideration for the 1932 team will be overlooked. Assistance will be extended to any candidate in arranging for training facilities should none exist at the university, college, or organization with which he may be affiliated.

For any additional information, including details of the national try-outs, interested organizations or persons should write the Committee through its Secretary, Major Wm. C. Rose, War Department, Washington, D. C.

### 1932 Modern Pentathlon Games Committee

MAJOR GENERAL GUY V. HENRY, *Chairman,*  
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MAJOR WM. C. ROSE, *Secretary,*  
War Department,  
Washington, D. C.



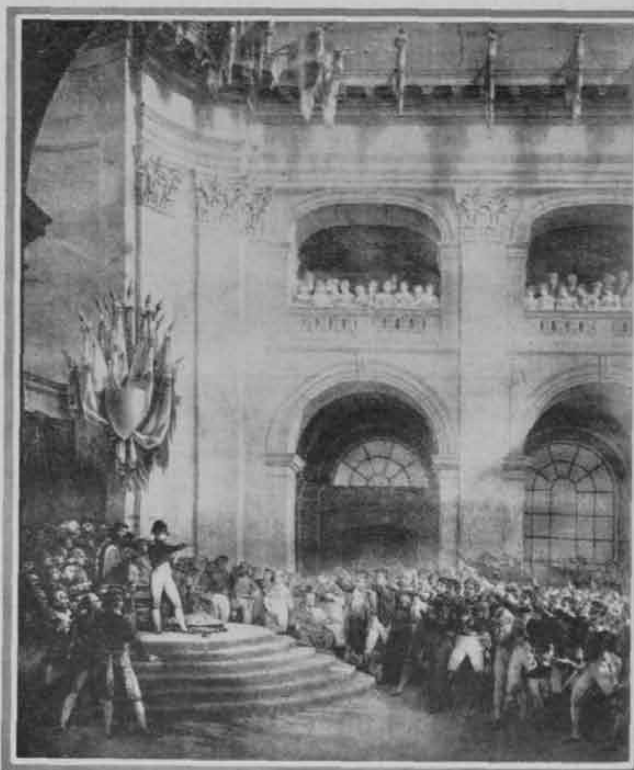
American Olympic Teams Arrive at Amsterdam

# Legion of Honor

Francis Dickie

THE American Medal of Honor and the British Victoria Cross undoubtedly rank among the greatest decorations for military service in the history of the world. They are today the most difficult to obtain. There is one other which, by reason of its wider scope, its famous historic associations, and its association with Napoleon, has held a high place in the imagination of all nations for a century and a quarter. This is the Legion of Honor.

In 1921 everything relating to this great symbol was scattered in private collections, except a few objects which were in the Grand Chancellery buildings, on the Quai d'Orsay. General Dubail issued an appeal to Legionnaires. Unfortunately the French members were not in a position to respond. When the need became known, eight Americans at once subscribed sufficient money to build a foundation for the future, France's newest museum of historical import. The largest single contributor was William Nelson Cromwell, a New York lawyer, who gave a million francs. The other chief donors were Mrs. A. B. Spreckles; Mr. and Mrs. Blumenthal; Mr. and Mrs. Edward Tuck; Mr. A. C. Gurnee; and Eugene Higgins. A part of the old Palace of the Legion of Honor (the Grand Chancellery building erected in 1787) was rebuilt into the Museum. Gifts of large and small collections of objects relating to the Legion of Honor came in from time to time, until by 1930 it has acquired the greatest gathering of objects relating to the Decoration to be housed under one roof in the entire world. Nevertheless, it is the least known of historically interesting



Inauguration of Legion of Honor

periods in modern history. There are paintings, old prints; the decoration of the Cross on pipes, on gloves, on saddles, on barrels and butts of guns, on swords, and on plates and glasses from the homes of famous Legionnaires. The ribbons are faded by time, and many a cross is eroded with rust and blood.

From so large a collection, the difficulty is to select the most outstanding for description. The choice for illustration is still more difficult. An engraving by Bebu-court dealing with the retreat of the French from Moscow gives such a moving picture of the horrors of that campaign and also the veneration that men paid to the Legion of Honor Cross that it won first place in the final selection. The suffering of the army is epitomized in this one fallen soldier, and the spirit toward the Cross. Succumbing to hunger and exhaustion he still will not give way to death until he has called a stronger companion to take his Cross and sword so that they will not fall into the hands of the enemy.

The Legion of Honor was inaugurated in the Church of the Invalides on July 15, 1804. Napoleon, sole planner of it, was the first to receive the decoration from the hands of his brother Louis. One of the most brilliant gatherings of the notables of the French nation assembled to witness a fête which, in a period noted for many historic and brilliant scenes, was one of



Dying Chevalier Sends Home His Sword and His Cross

spots in France, and is the least visited by Americans.

Within the restful Museum rooms is displayed a remarkable assortment of thousands of objects that throw light upon one of the most vivid and momentous

the greatest. From a specially raised throne Napoleon addressed the crowd. Then, when he himself had received the first Cross, he began distributing it to drummer boys and generals who had won it by their valor.



This Group, Especially Arranged for This Photograph, Symbolizes Deep Underlying Amity Between U. S. and France

It was the democracy of this order which gave it such a high place in the favor of the people.

Napoleon did not create the order until years of war experience had taught him how much store men set upon the symbols of heroic service. But he was not only a soldier. He saw that men in other walks of life served their country equally, sometimes better than warriors. So he gave the decoration to scientists, inventors, and other brilliant men. Oberkampf, who invented the process by which patterns were printed on linen, was the first civilian to receive the Cross, in 1804.

There are five grades of Legionnaires: Chevalier or Knight, Officer, Commander, Grand Officer, Officer of the Grand Cross. Since 1927, a Knight cannot rise to the next grade until he has held that grade for eight years. After being an Officer for five years he may be promoted to Commander. After three years, a

Commander can become a Grand Commander. Rising in the Legion is a lifetime work. This rule of ascendancy does not apply to decorations given to foreigners, who may even be given the highest order at first, as was the case of General Pershing.

Napoleon at first planned to limit the Legionnaires to 6,000. But he carried on so many wars that this number had to be extended. By the time that his rule was ended 32,000 persons had received the Cross. In the next 100 years the increase was very small, only 17,000 names being added to the illustrious roll. The World War added 90,000 more, and at the present writing the official figures show that 141,386 people have been decorated. To date 19,018 Americans have been awarded the medal, some for civilian aid to France, the majority for war service.

As a fitting mark of that lasting amity between the United States and France begun in the days of Lafayette and Rochambeau, one room has been set aside for relics relating to this. There are paintings of American generals who have been awarded the Cross. One of the most interesting objects is a Sèvres group, made up of figure of Lafayette, sword in hand, and on his either side an American and a French soldier of the World War. In this room is also one of the most remarkable busts of Lincoln. Strangely enough it is by an unknown sculptor, done in Sèvres. A bust of Washington in marble is a very finished piece of work.

When one walks through the restful rooms one sees a remarkable pageant of the past, made possible by bringing together at last the results of years of work by many private collectors. Though this place is rich in historic interest, the story is hardly known. Some of the photographs shown here were taken of the objects for the first time, through the kind cooperation of Director M. Henri Torre.

It is inspiring to know that the efforts of a small group of American citizens have now provided a home for the Legion of Honor, which for 126 years has held a place in the eyes of the peoples from all parts of the world.

### WEST POINT SCRAP BOOK

The Librarian at the United States Military Academy, Major E. E. Farman, is very anxious to obtain for that library one or more copies of "The West Point Scrap Book," by Woods, and of "Songs of the Graduates," music by Apelles, words by a Cadet, illustrations by Whistler.

If any of the readers of the COAST ARTILLERY JOURNAL have copies of these books and are willing to part with them, Major Farman requests that they communicate with him.



# Current Events Overseas

By *Lieut. Col. Herman Beukema, Professor, U. S. Military Academy*

**D**EFLATED national purses succeeded last month in advancing the cause of world peace when Great Britain, France, and Italy finally discovered a formula permitting French and Italian adherence to the London Three-Power Naval Treaty of 1930. Their action disposes of one of the knottiest international problems inherited by 1931 from its predecessor. At this writing only the principal points of agreement are clear; briefly substantial reduction in the naval construction programs of France and Italy for the next five years, Italian abandonment of the principle of parity with France, and England's important collateral announcement that she will not invoke the "escalator clause" of the treaty to parallel France's submarine program.

France emerges with a tonnage total, as of 1936, placed at 670,000 according to dispatches from Rome, and at 642,000 according to Paris. French retention of 84,000 tons regarded as obsolete, or at least obsolescent, as compared with but 5,000 tons of older ships in the Italian navy reduces by that much the mathematical superiority of the French navy. However, France secured a distinct lead in one important category, the submarine. There Italy gains parity with the United States, Great Britain, and Japan, at 52,700 tons, and France has a superior margin of at least 29,000 tons. Her advantage over Italy is largely nullified by the necessity of being prepared to fight in two seas, whereas Italy would concentrate in the Mediterranean. Both powers have agreed to limit their construction of 23,000 ton "pocket battle-ships," their answer to the German Ersatz Preussen to two units. In modern 10,000 ton cruisers substantial parity is attained.

Exact data on the naval terms of the agreement will probably remain unavailable until their submittal to the other three powers for ratification. In the meanwhile, "semi-official" figures furnish the basis of speculation in the continental press as to the ultimate consequences of the bargain.

How far the agreement will serve to check the growing political understanding between Italy, Germany, and Russia, and the development of the "revisionist bloc" of powers whose objective is the overthrow of the Treaty of Versailles, the future will determine. The immediate benefits to European stability, both political and economic, cannot be doubted.

## The British Empire

**United Kingdom.** All political activities within Britain during February were based upon unemployment. Mounting figures have divorced it from any actuarial basis as hordes of "transitional beneficiaries"

have been added. Additional borrowing by the fund from the treasury, with no end in sight, is sinking the whole system into a seemingly hopeless morass of debt. The figures must speak for themselves. The government's contribution of \$58,750,000 in 1928 rose to more than three times that amount last year. Present prospects indicate a further increase to not less than \$275,000,000 in the present year.

In the military field, discussion is roused in Parliament and the press by the slump in British recruiting, a fair barometer of the mental and physical state of the nation's manpower. More than 10,000 vacancies exist in the army, the result of applicants' failure to meet the prescribed standards. An increase of 6.1 rejections per 1,000 applicants for physical cause in 1929 has forced a lowering of the requirements, but that action has brought no appreciable improvement in acceptances for service.

A notable achievement in military aviation appears in the tests of a new fighter capable of climbing 15,000 feet in nine minutes. Its speed of 200 miles per hour, and its armament of six converging machine guns mark it as the most formidable plane of its type so far produced.

**Foreign Relations.** Russia's large-scale dumping, under which the initial flood of raw materials is followed now by finished and semi-finished manufactured goods, has so heavily invaded the British home market that concerted attacks are launched against the government, from within and without Parliament, for its maintenance of relations with the Soviet government. Taking this in conjunction with the action of the American and Canadian governments in declaring embargoes against Russian products, the British press sees and acclaims Anglo-Saxon solidarity against the menace of the Russian Five-Year-Plan. However, Great Britain has still to take the vital steps.

**India.** Mahatma Gandhi's declaration, on March 2, of a truce in the Indian Nationalist campaign of civil disobedience ended an impasse which for weeks had threatened to undo the good work of the recent Round Table Conference. His compromise with Lord Irwin to that end secured the Nationalists valuable concessions, including the acceptance of the natives' right to make salt for consumption at the seacoast. The government, however, retains its monopoly in the interior. The right of peaceful picketing of liquor and foreign cloth shops is also granted, and the confiscated property of political prisoners is to be restored.

**The Dominions.** Australia's fiscal problems continue as a first concern, not only to the people of that Dominion, but to the British banks and investing public. The credit standing of the Commonwealth is clearly indicated by the 37 per cent drop since 1928



in the market value of her leading security, a 5 per cent bond issue. Mired on their golden road to socialism, Australia's political leaders make three separate proposals toward escape, inflation, repudiation, retrenchment. The last, and the only path consistent with national common sense and honor is suggested by the Federal Treasury Loan Council. It finds but little support in the electorate. Meanwhile, the suggestion of secession from the Federation gains adherents in Western Australia, South Australia, and Tasmania, its advocates insisting that the Commonwealth is "too deeply involved in the toils of high tariffs and fictitious values."

The completion and opening of the Hudson Bay Line railway, connecting the Winnipeg grain area with Churchill, a new port on Hudson Bay, makes an important step in Empire communications. It reduces by 930 miles the haul from Winnipeg to Liverpool, opening a new low-cost outlet for the products of the Canadian Northwest. Strategically, it provides sea communications with the mother country far less vulnerable than the Liverpool-St. Lawrence lane. The question of maintaining open communications in the winter months awaits the practical test of weather and of ice breakers.

ROBERT B. RANSOM,  
*Captain, Infantry.*

## Western Europe

**League of Nations.** Refusal of our State Department to consider the questionable honor of furnishing a president for the General Disarmament Conference scheduled in 1932, maintains the traditional stand of the United States in avoiding embarrassing entanglements in European politics. The successful steps toward naval disarmament accomplished by the London Conference indicate that this world conclave will be concerned chiefly with land and aerial armaments. In view of the small forces maintained by the United States in those arms, our position as a leader at Geneva would be false. American refusal of the invitation left the meeting of the League Council in a deadlock on that issue, resulting in no appointment.

Dr. Hjalmar Schacht, former president of the German Reichsbank, has accused the Bank for International Settlements of failing to do its share in helping Germany meet its reparations payments, as contemplated by the spirit of the Young Plan. Pointing to the inevitable necessity of a heavy export trade for Germany if she is to meet her obligations, he declares that she is receiving none of the aid to which she is entitled. More to the point, he argues that the Bank should aid in financing undeveloped countries, particularly those which buy German products.

**France.** Like her weaker neighbors, France begins to feel the acute pinch of economic recession. Tax receipts are dropping sharply, car loadings have made a precipitous decline, unemployment mounts to 109,000, with more than a million workers going on part time, the unfavorable trade balance reached \$50,-

000.000 in January, and domestic trade is in stagnation. Caught by the slump more than a year after her rivals had been overtaken, France hopes to ride through a trough both shallow and narrow. Meanwhile, the glut of French gold continues and becomes a burden. The extension of credits totalling \$120,000,000 to the Balkan States, announced by the bankers as an indication of their willingness to play a part in restoring world prosperity, will not affect the gold hoard, since it represents merely bulk purchases of French goods by the countries involved. A \$32,000,000 international credit extended to Germany, France participating, may actually move gold to the debtor country. In addition a financial agreement with Great Britain should serve to stop the flow of bullion which was draining England and gorging France.

Facing a probable budget deficit the French parliament nevertheless continues to spend heavily for defense and for development of her colonial possessions. Total disbursements for military and naval purposes in the year 1931-'32 will aggregate \$753,000,000. In the colonies the outlay for railways, harbors, communications, and other public works will reach \$180,000,000.

**Spain.** Once more King Alfonso has played his cards superbly. With even the Royalists at war among themselves, there appeared to be little prospect of resisting the Republican clamor for the abolition of monarchy. Under pressure from every side the dictatorship of General Berenguer, premier, was brought to an end. The following day the King designated José Alphonse Guerra, bitter opponent of the monarchists, as premier, and European cables mentioned a vacation for the King as a first step in shelving him permanently. In twenty-four hours the situation reversed itself. Republicans, Socialists, Syndicalists, could not agree on a program satisfactory either to themselves or the throne. Worse still, Guerra found difficulty in forming a slate, with most of his candidates for the ministry reposing in jail. His failure gave the King the desired opening, and the aged Admiral Aznar, whose long career had rarely touched politics, was given the opportunity to form a ministry. Under his leadership, a monarchist coalition government, uniting the Romanones and Alhucemas factions, took office February 17th.

Municipal elections, to be followed by provincial and general elections are promised shortly by the new government. Whether or not the Republicans carry out their threat of abstention, it is expected that the Cortes will assemble in a few months with authority to function as a constituent assembly. Radical efforts to stampede that body into overthrow of the throne are expected, although the signal failure of the anti-monarchists to agree on a program has done much to weaken the movement. Amnesty for the 20,000 odd political prisoners is not yet forthcoming, censorship is maintained in full force, and the university doors are still closed in the continued repression of the volatile students.

DONALD A. FAY,  
*First Lieutenant, Infantry.*

## Central and Southern Europe

**Germany.** Germany continues to flounder. Happily, the latest lurch carried the nation in the direction of stability, when the government forced the hand of Hitler's Fascists on February 11th by passing a bill on parliamentary procedure which put an end to minority obstructionism. In reply the Hitlerites, 107 in number, walked out of the Reichstag, and were followed by 41 Nationalists and a handful of Agrarians. The "Rump Parliament" as the Nazis called it (but still a majority) survived the attack of nerves over the incident, then proceeded to transact business. In the meanwhile, Hitler's efforts to stampede the country into calling for a dissolution of the parliament proved futile. The sum of results indicates a distinct setback for Hitlerism, a corresponding strengthening of the government, and a growing confidence abroad in the ability of President Hindenburg and Chancellor Breuning to carry Germany forward on the charted course of safety. Foreign opinion is well reflected by the sharp and continued rise of German bonds in overseas markets since the spanking of the Nazis.

The seventh birthday of the Reichsbanner, an organization of ex-service men, on February 22d, was the occasion of demonstrations revealing the new "defense formations" of the Schupos, as they are called. Created as a reserve force to assist the police and the Reichwehr in combatting efforts to overthrow the Republic, the Reichsbanner now musters a first levy of 160,000 men, followed by an enrollment of a second and a third levy, available in emergency.

On the same day Hitler reviewed in Brunswick 40,000 members of the "storm detachments" of his party, and three days later, "International Unemployment Day" was observed by the Communists who paraded with their "Red Front Fighters" in the lead. With three well drilled, semi-military, political groups—the Schupos of the Reichsbanner, the "storm detachments" of the Hitlerites, and the "Red Front Fighters" of the Communists, now in existence, future political campaigns in Germany will tax the resources of the government to maintain order.

In an attempt to steal some of Hitler's thunder, the Reichstag, denuded of Nationalists, passed a resolution directing the government to reopen the question of war guilt and reparations. Paris promptly recognized it for the political gesture which it was, and proceeded with the arrangements for a substantial loan to Germany. In the meanwhile, Germany has obtained a much needed international loan of \$28,680,000, American bankers participating. Foreign trade continues to show a handsome favorable balance, although total volume is falling off. Unemployment figures, nearing five millions, are expected to improve with the resumption of spring construction and agricultural work.

A curt warning from the new head of the army, General von Hammerstein, calls attention to the fact that Fascist efforts to undermine the loyalty of the Reichswehr have not subsided. In this instance, re-

tired officers were apparently being used as Hitler's instruments.

**Italy.** Italian reaction to the Franco-Italian naval accord is difficult to gauge, in view of Mussolini's unrelenting press censorship. Fears are expressed as to the nature of secret understandings which it is assumed are hidden behind the letter of the agreement. At the same time there is evident relief over the resulting reduction in a burdensome naval construction program.

The capture of the Oasis of Kufra in southern Libya during February marks the end of seven years of intermittent warfare against hostile tribesmen in Italy's African possessions. For the first time the entire area of Libya and Cyrenaica is fully under Italian domination. As a result, the Tunisian-Libyan boundary question, a sore point in Franco-Italian politics since 1919, presses for solution.

Like France, Italy shows an increase in her forthcoming military budget, this despite the general cut in pay of all government employees. The total increase, \$5,905,000, results from the government's act in setting up military zones along Italy's Alpine frontiers facing France and Yugoslavia, in addition to those established along the Austrian border in 1924. The total cost of the new fortifications will be spread over several years.

OTTO L. NELSON,  
*First Lieutenant, Infantry.*

## Eastern Europe

**Russia.** Warsaw reported on March 5th the disclosure by Ogpu (Soviet secret police) of a plot aimed to stir up revolt in the Ukraine. Never satisfied with their minority role under the Russian heel, despising the Russians as an inferior race, the Ukrainian Nationalists have always looked to the day of complete independence for their people. The frequent uprisings against the Lenin regime were to be repeated in this instance. Apparently the plot had wide-spread ramifications, involving officers of high rank in both the army and navy, members of the Ukrainian secret police, and government officials. The most prominent officer arrested was General Kossak, commandant of the Red Army officers' school at Kharkov.

Carefully synchronized with the annual session of the All-Union Soviet Congress, a second trial of alleged conspirators against the Soviet state opened in Moscow on March 1st. Fourteen Mencheviks (Russian Social Democrats) are charged with participation in an international plot to overthrow the Russian government. Menshevik units in continental capitals, it is alleged, have been working through the defendants to rouse the Russian populace to revolt and furnish an occasion for armed foreign intervention. There is no repetition of the charges made against leading European statesmen in the first trial. On the contrary, Prosecutor Krylenko declares that he has unearthed the "War plans" prepared by the Second (Socialist) Internationale for its attack on its Communist successor.

The steady closing of foreign markets to Russian

goods, as one country after another declares its embargo against Soviet dumping is causing the Communists deep concern. Once more Russia turns to Germany for help, whether as a threat to the United States and other industrial powers which have been furnishing machinery and equipment to prosecute the Five-Year Plan, or as a step in permanent policy, cannot be said. The bait of a volume of orders totalling \$500,000,000 on a five-year credit, and an alternative of \$100,000,000 on a three-year credit left the Germans gasping. However, the state of German finance and of Russian credit prevented consummation of either deal.

GEORGE M. BADGER,  
*First Lieutenant, C.A.C.*

## The Balkans and the Near East

**Albania.** A possible second Serajevo was averted when two would-be Albanian assassins failed in an attack on the life of King Zog, picturesque Albanian ruler. Ostensibly undergoing a course of medical treatment in Vienna, he was given a police guard to ensure his safety. However, when it developed that the monarch's mission was actually concerned with dalliance, the vigilance of the police was relaxed out of deference, giving the gunmen their opportunity. Their poor aim averted a probable Balkan crisis, involving at the outset the two Powers most concerned over the future of Albania, Italy and Yugoslavia.

DONALD H. GALLOWAY,  
*First Lieutenant, Cavalry.*

## The Far East

**China.** Banditry, piracy, and the refusal of silver to rise above its panic price make up the principal sum of Chinese troubles today. It is not the season for active military campaigning, but such have been the inroads of the bandits, or "communists," that Nanking forces have kept the field constantly. The Nationalist capital reports one week-long battle resulting in the capture of Macheng, 60 miles north of Hankow, after the routing of a force of 10,000 Communists. Death by torture of three Nanking generals captured by Communists figures in another report. A not unusual difficulty arises over the uncertain attitude of several "grey" (i. e. neither quite loyal nor Red) generals and governors. How far financial persuasion will curb such disaffection and bolster the Nationalist alignment before the heavy fighting expected this spring is a question. The basic difficulty seems to arise from the attempted reduction of China's military forces from the 280 divisions enrolled, constituting in sum the greatest number of men under arms in any nation today, to the maximum of 100 divisions desired by Nanking. Not infrequently a division designated for disbandment secures advance information and mutinies as a unit. In other cases the mass of disbanded soldiery become bandits, "Communists" and what-not, to live on the country.

The military alliance of the Mukden War Lord,

Chang Tsuch-liang, with the Nationalists continues firm, as that leader takes up permanent headquarters at Peiping. The establishment of daily air communication on the route Nanking-Peiping-Mukden helps the arrangement, maintaining at the same time Chang's connection with Manchuria.

Failure of the six Great Powers concerned with extra-territoriality in China to reply to Nanking's representations in the matter brings an announcement from that quarter that more forceful methods may be necessary. In the meanwhile these Powers show concern over Nanking's new labor law, effective August 1st, next. Reduction of hours and restriction of child labor will apparently end a low-cost industrialist's paradise, and these owners for the most part, are foreigners. They damn the scheme as a wholesale invitation to bribery, whereby wealthy factory owners will be able to avoid the tax by means of bribing government tax officials.

Oriental deliberation prolongs the monotonous parleys between the Soviet and Mukden governments over issues arising from the armed clash in 1929. The Manchurians are refusing to accept one clause on which Moscow insists, the prompt deportation of any White Russian in Manchuria whose presence there may irritate the Soviet government. The latter refuses to make any exception in the case of Russians who have adopted Chinese citizenship. A second parley, between Nanking and Moscow, covering the affairs of the Chinese Eastern Railway is in a similar deadlock.

**Japan.** Naval affairs occupied the attention of the Japanese Diet throughout the month to the almost complete exclusion of all other matters. At one period, early in the month, the consideration of the naval bill to put into effect the clauses of the London Naval Treaty produced five successive sessions in which wild disorder prevented debate. In the resulting mêlées furniture was smashed and physical attacks among members were the order of the day. The alleged attempt of Foreign Minister Shidehara to charge the throne with responsibility for treaty ratification was eventually explained by that minister, and comparative calm was restored. The announcement of the Franco-Italian adherence to the London Naval Treaty was greeted with general enthusiasm. The Opposition, however, will fight bitterly the provision which allows France a 30,000 ton margin of submarines over the other four powers.

A bill granting women equal suffrage with the men in elections for municipal autonomous assemblies passed the lower house. Its final passage is doubtful in view of the fact that a similar bill was shelved by the upper house last year.

The prolonged Soviet-Japanese fisheries dispute has brought the Japanese to the conclusion that Moscow is pursuing a consistent policy of nibbling away Japanese commercial rights by treaty. That conclusion stiffens Tokyo's back against further concessions.

ROBERT E. BLAIR,  
*First Lieutenant, Infantry.*

# NATIONAL GUARD NOTES

## Training Schedules

IT has been calculated that an armory drill period costs the Federal Government in the neighborhood of \$250,000 for armory drill pay. From the total amount of his payroll each unit commander knows just what each of his drills cost. To this federal cost must be added a pro rata share of what the State devotes to this particular activity, on account of both the pay and the installations.

For these expenditures the Government and the State are entitled to value received. In like manner the national guard soldier who gives up his time and devotes his energies to this phase of military training is entitled to value received, aside from his pay, for his efforts. Whether or not these values received are realized upon what is accomplished during the drill period, and this in turn depends largely on how much planning and preparation has been made for it.

The unit commander who has worked out a definite schedule and has prepared himself and his non-commissioned officers to carry it out, and who does carry it out in an effective and interesting way will attain results that will give value received both to the Government and to the National Guardsman. The further a unit commander misses this procedure, the less value the drill period will produce.

It is not practicable for a man to do all of the planning necessary for this work and to keep it in his head. He must set it down in writing, and the best way to do this is to prepare a schedule which sets forth the exact portion of the drill period to be devoted to each of the subjects to be taken up. The schedule also acquaints the members of the command with the plans for the evenings work, and those who are affected may brush up on the subjects if they have a training regulation available.

Training duties should be assigned to noncommissioned officers in every unit. They should be required to assist in the work when it is appropriate. It not only gives them practice in doing these things, but it gives them practical experience in the art of leadership and creates in them a greater sense of responsibility. If a noncommissioned officer does not have these opportunities he will never rise above the level of a private soldier.

tional amount to cover the ration of the troops while traveling between their homes and the camps. In a few instances, when it has been shown conclusively that the present ration allowance is not sufficient, it has been increased to meet the conditions. These cases are very limited and are not of general application.

There have been many conflicting opinions as to the sufficiency of the ration allowance. Some think that it is not nearly large enough to feed the National Guardsman while at camp and doing the work that he is called upon to perform. Others contend that, if the ration is properly handled, it is ample, and they back up their contentions with well-balanced menus and other data that make them conclusive.

Again, there are those who contend that the allowance should be increased because it is not nearly equal to that allowed for the C. M. T. C. These people do not take the circumstance of the C. M. T. C. allowance into consideration. They do not appreciate the fact that every article of equipment and every cent for running of a C. M. T. C. mess must come out of the allowance, and that when all of these things are considered the C. M. T. C. allowance is very little in excess of the national guard allowance, if any.

In view of all the conflicting evidence available, General Everson had a complete canvas of the situation made during the field training camps this past summer. The consensus of opinion is to the effect that the national guard ration allowance of 50 cents is sufficient to give the soldier a well-balanced and sufficient ration, if the food is properly prepared and served. In those States in which the messes are run in accordance with a master bill of fare and the procurement of food stuff is through a central purchasing agency, it is found that the fifty cent ration allowance is ample for the purpose.

A calculation will show that an increase of one cent in the ration allowance means an additional expenditure from camp funds of the Militia Bureau, some \$24,000, and an increase of five cents per ration would require some \$12,000 for the purpose. If such an increase is to be provided, it would have to come from the field training camp project, and some other essential item in that project would have to be curtailed for the purpose of making the funds available.

## National Guard Ration

A RESOLUTION was passed at the Convention of the National Guard Association, held in Los Angeles last year, which provided for an increase in the national guard for the field training period to 55 cents.

The ration allowance is now 50 cents, with an addi-

## Challenge Accepted

A PACIFIST out in Colorado challenged the captain of Company L, 157th Infantry, to let his company see the movietone, "All Quiet on the Western Front." "It will take all of the war notions out of them," he said.

The challenge was promptly accepted and the whole company in uniform, saw the show. To date the unit has felt no untoward sensations, nor has a man abandoned the soldier life as a result of the experience.

The fallacy of the pacifists contentions was explained to him. He was told that the men who enlist in the National Guard are not actuated by a desire to plunge the country into war in order that they may parade in glory for a brief moment. It is a base interpretation of a noble greeting to twist patriotism into a desire for war. Exhibiting the horrors of battle as depicted on the screen will not weaken the ideals of the National Guard; it will strengthen them in their determination to train and prepare themselves better, to the end that the nation may be spared just such horrors.

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### Recruiting from the R. O. T. C. and the C. M. T. C.

IN a number of States, national guard authorities are appreciating the recruiting possibilities of the R. O. T. C. and C. M. T. C. They are sending selected men of their organizations to the C. M. T. C. camps each year with a view to their securing additional training and preparation for promotion to the higher noncommissioned grades.

The plan has another and distinct advantage. These young men go to camp and, with their previous National Guard training, naturally fall into assignments in which leadership counts. They are thus able, during the course of the camp, to disseminate much information about the component that they represent. They become disciples of the National Guard and recruiting agents under the most favorable circumstances. If their camp efforts are followed up by higher authorities, the chances are that they will produce splendid results.

Such systematic action has been taken by the authorities of the 33d Division, Illinois National Guard, under the direction of Major General Roy D. Keehn, the division commander.

The division staff has secured a list of the names and addresses of all R. O. T. C. and C. M. T. C. mem-

bers in the State of Illinois. These lists have been broken down and classified as to localities where the candidates live, and have been furnished to National Guard unit commanders there. The unit commanders have been urged to contact these young men and to extend to them an invitation to become members of the National Guard.

It is contemplated that this plan will bring a number of desirable young men into the units and do much towards the solution of recruiting problems in the State.

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### Communications Personnel

THE command post exercises conducted during the field training periods last summer developed the fact that there is a shortage of men in headquarters units who are competent to conduct the communications service. This applies specially to infantry regiments and battalions.

Communications work is highly specialized, and the armory drill and field training periods will not provide sufficient training for these men.

All of this points to the necessity for recruiting the communications personnel from among men who are engaged in kindred work in civil life, men who are the employees of telephone and telegraph companies, radio technicians employed by radio sales and service agencies, and amateur radio operators.

The armory training periods should be utilized in the specialized military training which, the men require to make them proficient in the various duties that they may be called upon to perform in connection with communications. There is little or no time for technical training at field training camps. There the time should be devoted to tactical work and providing signal communications for the troops engaged in combat exercises.

The headquarters unit commander who fails to obtain the right kind of personnel or who glosses over the technical training during the armory periods will find himself up against an unsolvable problem when it comes to tactical work in the field, and he will find no way out of his embarrassing situation.



# COAST ARTILLERY BOARD NOTES

*Communications relating to the development or improvement in methods or materiel for the Coast Artillery will be welcome from any member of the Corps or of the Service at large. These communications, with models or drawings of devices proposed, may be sent direct to the Coast Artillery Board, Fort Monroe, Virginia, and will receive careful consideration. J. C. Ohnstad, Lieutenant Colonel, C. A. C., President.*

## Projects Completed During January

| No. | Title                                                                                               | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 689 | Special Seacoast Target Practice for Training of Aerial Observers.                                  | Completed January 26. Recommended (1) Additional practices with aerial position finding be held in the near future; (2) All units, in addition to other methods, test the clock code for spotting; (3) The methods of aerial position finding by means of resection as used at Bruja Point, and the method used at Fort Winfield Scott, be further tested; (4) work on radio direction finding continue; (5) before actual firings sufficient exercises in tracking take place to insure good coordination and communications between airplane and battery; (6) firing signals be not given by the observer; (7) pending the possible development of other methods, fire be adjusted by method which uses the gun as a range finder; (8) a suitable instrument for use by the observer be developed which will meet the following requirements: (a) Makes position finding possible without restricting observing planes to any fixed point or line, (b) Makes spotting possible without restricting observing plane to any fixed point or line, (c) can be mounted in rear cockpit without interfering with back seat guns, and (d) Will not require observer to approach within range of ship's antiaircraft guns; (9) the instrument proffered by the Zeiss Company for aerial position finding and spotting be tested. |
| 701 | Comments on Target Practice Reports.                                                                | Completed January 31. Recommendations were submitted in the various comments of the C. A. Board on all target practice reports reviewed and studied by the Board during the Fiscal Year 1930.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 797 | Test of Ordnance Tractor Caterpillar "30" MI.                                                       | Completed January 8. Recommended that Ordnance Tractor Caterpillar "30" MI be adopted as a standard unit for Antiaircraft Artillery, and that one such caterpillar be issued each A. A. service battery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 801 | Portable Terminal Center, Telephone Lines of Mobile Artillery.                                      | Completed January 6. Recommended that the portable terminal center for mobile artillery be not developed for service use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 806 | Use of Glider Targets and Aircraft for Targets Instead of Towed Targets for Antiaircraft Artillery. | Completed January 28. Recommended that (1) future tests be held with glider targets; (2) an effort be made to make glider targets more visible at medium and extreme ranges; (3) no effort be made to introduce the method of fire 180 degrees away from the plane; (4) firing at sleeve targets continue as the standard method for antiaircraft target practice at least until some better method may be devised.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

- 808 Antiaircraft Communications. Completed January 9. Recommended that in any anti-aircraft tactical exercises held in the future, based upon such exercises, unit commanders determine the actual amounts of wire and the necessary number and duties of communication personnel for war strength units with a view to effecting a revision of the present Tables of Organization for A. A. Units.
- 809 Sight Mounting for Antiaircraft Gun, M1918 (Applegate). Completed January 12. Recommended that the sight mounting, antiaircraft gun M1918, Applegate, be not built.
- 816 Multiple Mount for Antiaircraft Machine Guns. Completed January 12. Recommended that papers, consisting of description of a schematic model of multiple machine gun mount, be referred to the Ordnance Technical Committee for consideration to determine what features the mount may contain which may be desirable to incorporate in experimental machine gun mounts to be constructed.
- 818 Standard Nomenclature List No. A-2, (Equipment Section). Completed January 8. Recommended certain changes and additions to list, and further recommended issue of complete set of .50 caliber machine guns and equipment to at least one A. A. machine gun battery for service test.
- 821 Zeiss System of Fire Control from an Airplane. Completed January 30. Recommended that one complete set of instruments pertaining to the Zeiss System of Fire Control from Airplane be purchased for test by The Coast Artillery Board.

### Projects Under Consideration

| No. | Title                                                             | Remarks                                                                         |
|-----|-------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 679 | Test of Rear Band Assembly for Dummy Projectiles.                 | Awaiting test of 8 inch projectile.                                             |
| 681 | Test of Fast Towing Target.                                       | Further tests postponed until test at Fort Story of T-1 Mount and Director M-2. |
| 694 | Test of Erosion Charts.                                           | Firings to be conducted during month of February.                               |
| 707 | Test of Artillery Lantern M-1 and Lantern Mask T-1.               | Awaiting receipt of report of tests conducted by 92d C. A.                      |
| 727 | Standard Single Conductor Mine System.                            | A continuing project.                                                           |
| 764 | Reminder List for Antiaircraft Artillery Target Practice.         | Under study.                                                                    |
| 796 | Test of Elevating Mechanism (T4) for 12" Ry. Mortar Carriage.     | Under test.                                                                     |
| 800 | Test of Radio Direction Finders.                                  | Under study.                                                                    |
| 814 | Illuminating Device for 12" Barbette Carriage, Model 1917.        | Awaiting result of test at Fort Hancock.                                        |
| 815 | Comments on Target Practice Reports, Fiscal Year 1931.            | Comments submitted as reports are received.                                     |
| 817 | Time Interval Apparatus for Mobile Artillery (Wallace & Tiernon). | Under test.                                                                     |
| 819 | Device for Training Spotting Observers ("Impact Theatre").        | Under study.                                                                    |
| 820 | Confidential.                                                     |                                                                                 |

# PROFESSIONAL NOTES

## Air Corps Notes for 1930

**O**PERATING with the Hon. F. Trubee Davison, Assistant Secretary of War for Aeronautics, as its departmental head, and Major General James E. Fechet as its Chief, the Air Corps on December 31, 1930, completed three and one-half years of its Five Year Expansion Program.

The latest figures compiled on the subject give the Air Corps the following strength in personnel:

|                                                           |        |
|-----------------------------------------------------------|--------|
| Air Corps Officers, Regular Army .....                    | 1,204  |
| Detailed to the Air Corps (mostly student officers) ..... | 139    |
| Reserve Officers on extended active duty ..               | 240    |
| Total number of Air Corps Reserve Officers ..             | 5,700  |
| Air Corps enlisted men .....                              | 12,086 |

Foremost among its members are the three Assistant Chiefs of the Air Corps, each holding the rank of Brigadier-General. These officers, together with their duties, are:

General Benjamin D. Foulois, Chief, Plans Division, Office of the Chief of Air Corps, Washington, D. C.

General Charles H. Danforth, Commanding the Air Corps Training Center, Duncanson Field, San Antonio, Texas.

General Henry Conger Pratt, Chief of the Materiel Division, Air Corps, Wright Field, Dayton, Ohio.

With reference to types of airplanes, the Keystone B3A, similar to the old LB-7 except for a single rudder assembly, was adopted as the standard type bomber. A number of single-engined cabin airplanes of a commercial type were bought and placed in the service for aerial photographic uses. The Douglas O-25A and O-38, and the Thomas-Morse O-19, are being used for observation purposes, together with a number of Curtiss Falcon O1-E's.

The Curtiss Falcon A3-B still holds the field as the attack airplane, while the new Boeing P-12C and some Curtiss P-6 airplanes have been adopted for pursuit work. Transport airplanes of medium capacity, but possessing high speed, have been bought and placed under service tests.

Among the experimental airplanes which were tested during the past year, and which may affect pursuit design, should be mentioned the Berliner-Joyce, the Curtiss XP-10, the Boeing XP-9 and the Curtiss XP-17. A new type of long distance reconnaissance airplane, the Fokker XO-27, is also undergoing tests with a view to its practicability for that purpose. This is a monoplane with two engines and retractable landing gear, and has often been referred to as a "flying wing."

Construction work and the planning of layouts at many of the present and future stations were carried on to keep pace with the growth of the Air Corps. At Randolph Field, San Antonio, Texas, and Maxwell

Field, Montgomery, Alabama, construction of a general character has taken place to take care of the movement of the Air Corps Primary Flying Schools to the former field and the Air Corps Tactical School to the latter. Mitchel Field, Long Island, New York, and Selfridge Field, Mt. Clemens, Mich., have been provided with new quarters and barracks, with the addition of a hospital at the latter field. Noncommissioned officers quarters were in the process of construction at Langley Field, Va. Barksdale Field, the site near Shreveport, La., was turned over to the War Department, and building preparations made with a view to providing facilities for the Third Attack Wing to be stationed there sometime in the future. The site in Marin County, Calif., for the proposed new bombardment group, and the one at Alameda, Calif., for the Air Depot on the Pacific Coast, have not yet been accepted by the War Department, but consideration is already being given to the possible layouts of buildings and grounds at those places.

Extensive maneuvers were held during April at Mather Field, Sacramento, Calif. Every combat unit stationed in the United States participated in these exercises, which lasted four weeks. More than 135 airplanes, service type, combined as the First Provisional Wing, went through intensive training in the coordination of various types of aviation which the exercises afforded. The size of such a temporary organization will be quadrupled during May, 1931, with the formation of the First Air Division and the holding of maneuvers in the northeastern states.

A feature of the 1930 exercises was the cross-country flight of a bomber, equipped with a gyro pilot, from the East to the West Coast and return, also its participation, so equipped, in a simulated bombing raid out at sea; a squadron maneuver of the 95th Pursuit Squadron of 19 airplanes at an altitude of 23,000 feet, and the transmission of pictorial messages by radio from plane to ground, should also be mentioned.

In aerial photography, Air Corps photo sections have completed thousands of square miles of photographic surveys for the U. S. Coast and Geodetic Survey and other agencies of the Federal government.

Radio developments were mainly along the line of "homing devices," or directional indicators. These may be described briefly as devices for directional tuning whereby the airplane pilot may quickly get the bearing of any radio or broadcasting station in operation at the time, and by two or more cross-bearings be able to plot his position accurately. A similar development work, although not strictly in radio, was carried on by the Air Corps in cooperation with the General Electric Company on the Sonic (sound-echo) Altimeter for blind landings and flying in fog.

A practical demonstration of the effectiveness of

attack planes in combat operations against enemy air forces was conducted in October at Camp Stanley, near San Antonio, Texas. Twenty obsolete airplanes, no longer fit for service, were arranged on the ground to simulate a squadron airdrome in war time. Ten attack planes from the Third Attack Group of the Air Corps at Fort Crockett, Galveston, Texas, bombed a collection of worn out planes. Small fragmentation bombs were used during the first two attacks at an altitude of 400 feet. Practically all the planes were damaged as a result of this attack, and three caught fire. An attack was then made on the remaining planes with 100-pound demolition bombs, which resulted in their total annihilation.

At Wright Field, where the experimental, engineering, procurement and executive functions of the Materiel Division are administered, 97 officers and 1077 civilians are employed. The year has seen steady progress toward the completion of the building and construction program.

Since 1927, when the boom in commercial aviation started, aircraft manufacturers have been engrossed mainly with commercial development. This has brought about certain refinements of airplane structure that can be adapted to the military airplane, but it has not fostered the development of the strictly military airplane power plant in which high power is the primary requirement. During 1930, owing to the decreased volume of business, commercial contractors turned again to the government as a main source of business supply, so that the nation's aeronautical engineering talent is more fully at the Government's disposal than at any time during the past three years. There are a number of interesting new military airplanes. These airplanes show a definite trend toward all-metal construction. The metal, monocoque (shell shaped) fuselage has distinct advantages over the present standard type of structure which consists of a fabric-covered steel fuselage, the wings being of wood or metal with fabric covering. Metal construction offers a saving in weight, an improvement in streamlining, and consequently an increase in speed. There are now being produced all-metal monoplanes for attack, bombardment, pursuit and observation airplanes. While both biplanes and monoplanes have appeared during 1930, there has been a strong leaning toward the monoplane construction.

Those who are familiar with the Air Corps designations of bombardment, observation, pursuit, transport, primary and basic training types of airplanes, will be interested to learn that several new types have appeared during the year. These are the photographic and attack airplanes, which were formerly in the observation group but have been divided off into individual types, and three new models grouped under the transport type, namely, the cargo, ambulance and workshop planes.

Although observation airplanes will continue to carry photographic equipment when so detailed in time of war, there is a definite need for an airplane especially adapted for photographic uses and which in time of

war would have no particular military value except that it could be converted to a light transport plane.

The attack planes also show marked digression from the parent military observation types. The breach continues to widen with the development of the former. The new models are low-wing monoplanes with monocoque fuselages, racing type wings, making possible increases in speed of about 50 miles per hour over the present models.

A new experimental observation plane provides for the seating of a crew of three in tandem. Besides the tri-motor transports now standard, a number of single-motor transports are being tested for use as tenders to pursuit airplanes, carrying crews and minor parts while heavier ones will carry engines and other bulky equipment as well as personnel.

Several of the new experimental airplanes produced this year have incorporated the "Gull type" wing—so named for a suggested similarity in shape to the wing of a gull. The depressed center section of this wing allows very good vision for the pilot. Aerodynamic disadvantages, however, may outweigh the vision advantages, and this can only be determined by thorough testing. Another wing of peculiar interest is an internally braced, metal, shell-typed one with a span of 55 feet and exceedingly light in weight. When recently tested at the Materiel Division, surprising results were obtained, in that the load it proved capable of carrying was approximately double that which had been anticipated in its designing.

Retractable landing gears, tried out at McCook Field in 1923 and embodied in the Verville Racer, reappeared in several types of airplanes in 1930, but with greatly improved engineering features.

**Propellers:** During 1930, approximately 70 whirl tests were run on propellers, hollow-steel bladed ones being among them. Controllable pitch propellers have been flown in service test with satisfactory results. Tail wheels (full swivel) form part of all standard equipment. Cowling and streamlining have increased speed considerably. The use of brakes has been extended to all types of airplanes, including the training types.

**Power plants:** The greatest emphasis for the military airplane has been placed upon increased speed. To obtain this it was necessary to have engines of greater power and efficiency. The trend has been to increase the power output of engines of the present piston displacement by developing the maximum horsepower possible from each cylinder. This has been done by increase of revolutions per minute, gearing, supercharging, increase of compression ratio, and improved cylinder design. An increase of from 10 to 20 per cent in horsepower for engines with standard cylinder bores has been achieved during 1930 as a result.

Further improvement, it was realized, could be obtained with improved fuels, and great effort has been expended toward this end. The knock which is so troublesome to automobile drivers, when encountered in aircraft engines, soon proves absolutely destructive. Hence the aim was to obtain a gasoline which could be

run in these high powered engines without knocking. A new gasoline specification was written for obtaining this improved product, and since it is generally admitted that the Air Corps creates the standard for domestic aviation gasoline, it is believed a higher grade product for all aviation use has been the result of the year's work.

The Air Corps has never abandoned the liquid-cooled engine for high powers and speeds. Nor have the military organizations of France and Great Britain. When, in the Schneider Cup Race in the fall of 1929, a British pilot accomplished 357 miles per hour in a racing plane equipped with a Rolls-Royce engine of 1950 horsepower, the point of the military organizations was well proved. This was not a speed that could be held for regular service airplanes, of course, but was enlightening from the point of view of what could be accomplished. Decreased head resistance and more efficient cowling are possible with the liquid-cooled types, and when ethylene-glycol is used, a smaller radiator is possible, along with smaller volume of liquid and a consequent saving in weight.

The Air Corps was the first service in the world to adopt the use of ethylene-glycol as a cooling medium for engines, and it has been thoroughly service tested during the year of flight. Development for the strictly military type of airplane, therefore, has been with the liquid-cooled engine. The air-cooled engine with the refinements of installation evolved during the past two years continues as the standard training and transport engine.

*Aircraft Equipment.* Great interest was aroused last year when the Guggenheim Foundation undertook a program of development of instruments that would enable a pilot to fly "blind," a condition often unavoidable in fog or adverse weather. The Air Corps has continued this development making it one of the major instrument activities. Many tests have been run during the year on an "artificial horizon" instrument, similar to that used by Lieut. Doolittle, (Guggenheim tests) but with improved features. This instrument automatically informs the pilot of the location of the true horizontal flying position with respect to the ground. The method of indication employed with this instrument is very natural, a horizon bar appearing to move up and down as the nose of the plane is lowered and raised respectively. As the plane is banked to right and left, respectively, the horizon bar appears to rotate in counter clockwise and clockwise directions.

A directional gyroscope, another important blind flying instrument, indicates the exact magnitude of turn in degrees for short periods of time. Experiments have been in progress on various types of highly sensitive altimeters, so sensitive as to indicate the height of the plane with a maximum error of only ten feet. Several types show decided promise. This instrument is essential for use in fog blankets which extend to the very ground.

Oxygen equipment, compasses, thermometers, flight indicators and the engine instruments have also undergone improvement.

*Aerial Photography:* Work has been carried on to make possible the taking of night photographs at greater altitudes than ever before achieved, which in connection with quick-work development of print would be of inestimable value in time of war. The developing of pictures while still in flight has been shortened to eight minutes from the time of exposure to the finishing of the print. A small hand-held camera has been developed for obtaining "spot shots" in enemy territory at altitudes varying from 1,000 to 5,000 feet.

*Aircraft Radio:* As aircraft radio has become more specialized, the work has been divided into three distinct types of communication. These are: Liaison Communication (communication between aircraft in flight and units on the ground), Command Communication (communication between air units, or within an air unit in flight), and Aids to Navigation, which enables a pilot to obtain weather information, course ranges, and various other navigation data directly rather than through an operator.

The story of aircraft radio shielding is one of great interest and achievement. Anyone who has a radio in his home is familiar with the static resulting from the slightest electrical interference. Some idea of the problem involved in eliminating interference in the narrow confines of an airplane with a high powered motor and generators may be surmised. While this work has been in progress for several years, the past year has been one of distinct advancement, and most satisfactory shielding results have been obtained. Radio sets have also been reduced in size and weight, and improvements effected therein have made for greater reliability and simplicity of operation.

—Extracted from Air Corps News Letter

## New Project for Improving the Field Artillery School

ON December 10, 1930, the Secretary of War, Hon. Patrick J. Hurley, approved the project of locating the Field Artillery school permanently at Fort Sill, Oklahoma. The School will require considerable construction, reorganization and expansion in order to make it a suitable permanent institution. Many of the buildings now are wooden, war-time construction and the school has suffered greatly in recent years from fires in these temporary buildings.

The Commandant, Brigadier General William M. Cruikshank, has prepared plans in detail for a program of permanent construction and expansion. These plans will be studied on the ground by the Chief of Field Artillery and the Commandant of the Field Artillery School in order that they may be promptly approved and work started.



# A Method of Air-Testing Powder Containers

By Capt. A. C. Cleveland, C. A. C.

THE small number of personnel at harbor defenses on caretaking status makes it necessary to utilize all practicable labor-saving devices.

In the Harbor Defenses of Portland, and Portsmouth, the task of testing several thousand cartridge storage cases was begun with a more or less hopeless prospect of its ever being completed with the personnel available. With powder stored at eight different forts, three of them on islands, in two groups sixty miles apart, the hopelessness would appear somewhat justified.

But Tech. Sgt. Harry E. Ranch, Ord. Dept., Ft. McKinley, Me., suggested a device which has speeded up the work considerably.

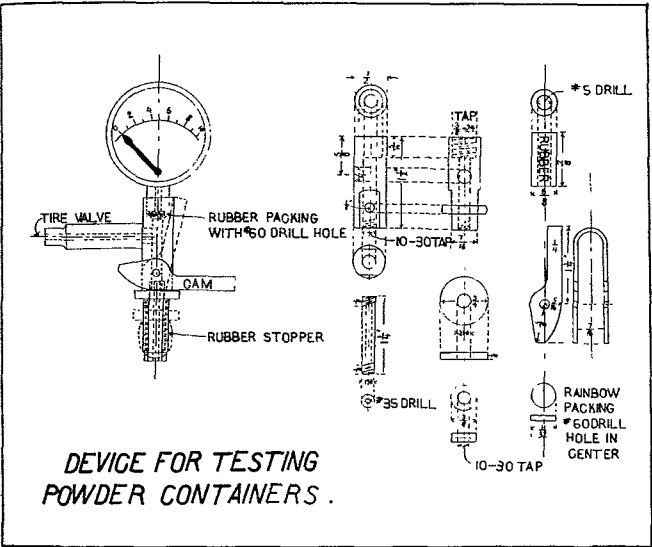
standard automobile tire valve. To the top of the tube is fixed an air pressure gauge. A cam just above the stopper, when thrown up, compresses the stopper and thus increases its diameter, making it fit tight in the hole bored for it in the powder container. Into the entrance at the bottom of the pressure gauge is driven a brass plug, with a fine mark scratched along one side, lengthwise of the plug, to prevent excessive fluctuation of the needle.

To produce air pressure through the "Ranch device," a pump was made locally by armament machinists Woodsum and Harris. This pump will give sufficient pressure in seven or eight strokes of the hand lever. About twenty-five feet of ordinary air hose, similar to that used on air pumps at gas stations, is connected from the pump to the valve near the top of the "Ranch device."

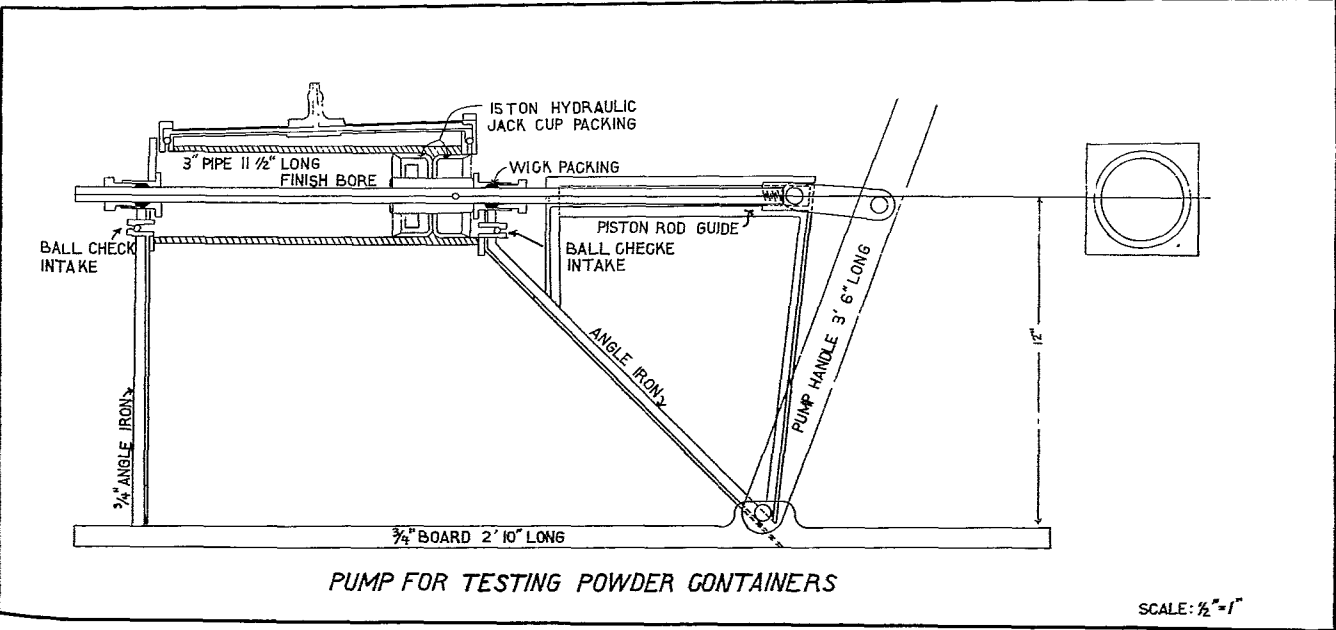
## METHOD OF OPERATION

A hole of diameter at least 13/32 inch is reamed in each powder container. Then, after inserting the "Ranch device" into this hole, the cam is raised to expand the rubber stopper. The air hose (from the pump) is connected to the tier valve on the "device" by means of a snap clamp such as was formerly used on tire pumps. Pump up pressure to about 3 to 5 pounds. Then disconnect air hose from the "device" and attach it to a "device" on the next powder container and proceed as before. The gauge on each previously applied "device" is watched, and, if, its needle indicates constant pressure for one minute, the container is considered air tight, and the "device" is removed and inserted in the next container ahead of the pump. Obviously, if the pressure decreases, the container leaks, the point of leak being determined by immersion in water.

Experience in the Harbor Defenses of Portland in the past few years has shown that an armament machinist and three soldiers, using the old standard column of mercury apparatus, could test about sixty containers per day. With the "Ranch device", with



Essentially the device consists of a rubber stopper with a brass tube running through it longitudinally, one side of the tube near the top terminating in a



the same personnel, a daily average of about three hundred containers has been tested. On one day the crew tested 480 containers (eight-inch multiple section). The operations included reaming the holes from  $\frac{1}{4}$  inch to 13.32 inch before inserting the "device." Three "devices" were in use. With the same crew employed, it is believed that six "devices" could be used to greatest advantage. It is obvious that leaky containers can be tested more rapidly than tight ones, as in the former case the air gauge shows a decrease in pressure almost immediately.

The pressure gauges were the same type as the Ford Model "A" oil pressure gauge, and were purchased locally at \$2.55 each. It has since been learned that a similar gauge is sold by a well known mail order house for 95 cents.

In using the method described above, the powder containers need not be taken from the tiers, unless leaks are indicated.

The rapidity of testing containers is partly obtained by elimination of use of the old sealing disc, since the Chief of Ordnance has approved the use of cork stoppers to plug the holes. Thus in future tests the stoppers can be more easily removed than could holes be drilled.

### Field Artillery School Tests Radio Interference

**A**N important and interesting test of the practicability of operating simultaneously a large number of radio sets, in connection with work with airplanes, has recently been held at the Field Artillery School at Fort Sill, Oklahoma.

A corps, consisting of three Infantry divisions, each with its Field Artillery Brigade, and in addition the Corps Artillery Brigade, was taken as the general basis of the test and various regimental and brigade sets were installed and worked with one another and with the airplanes which would be used on artillery work. Eight nets were employed, two stations to each net and three airplanes equipped with SCR-134 transmitter and SCR-152 receiver.

The stations were scattered over an oval area about three by five miles, and it was decided that in such an area twelve airplanes could be employed simultaneously in observing fire for the Field Artillery batteries, and at the same time four other airplanes could work with the Field Artillery Brigade stations, and that from sixteen to twenty-four airplanes could be used simultaneously on Field Artillery missions in the area described without too much interference from one another or from the stations of other troops.

The allocation of frequency bands was carefully worked out. Due consideration was given to the fact that frequency bands would have to be reserved for other than Field Artillery units. The new radio sets of the airplanes proved to be of such excellence that it was determined that with these sets a 15 KC separation between nets was sufficient. The test was conducted by Captain A. M. Gurney, Field Artillery.

### Gleanings From the Adjutant General's Report

**O**F the 12,106 officers of the Regular Army only one-third are graduates of West Point. Over 2,000 of them are former Reserve officers, while 1,000 were enlisted men when appointed. Over 3,000 were civilians.

Of 124,000 enlisted men in the Regular Army, one-half were lost from all causes during the year—approximately this number being recruited.

Desertions were fewer in number, being only 4.78 per cent compared to 5.20 per cent last year.

Only 33 officers on the retired list had served in the Civil War. (What's that? Of course not. He asked if there were any on the active list who had served in the Civil War).

There were 113,500 reserve officers at the end of the year. 11,600 also held National Guard commissions. Over 21,000 reserve officers took two weeks training.

218 R. O. T. C. units produced 5,800 new second lieutenants of the Reserve—an average of about 25 per unit.

Only 69 Reserve officers received six weeks active duty training. (Principally with C. M. T. C.)

53 C. M. T. Camps were held in the entire United States. Out of 36,500 who trained, 1,800 graduated from the Blue Course but only 46 were commissioned in the reserve.

24 officers from foreign armies attended our service schools during the year. 33 of our officers attended foreign schools.

Army personnel and their families read 1,554,000 books from the service libraries (in addition to Navy Wives and Parade Ground.)

47 Army theaters have sound equipment. 3,718,000 persons paid to attend army picture shows.

13,374 emergency officers have been retired up to the end of June.

The Army has the finger prints of 4,760,000 persons, most of them being respectable citizens. It also has the finger prints of Jack "Legs" Diamond (who drew a D. D. from the Coast Artillery) and Al "Scarface" Capone.

### Notice to Harbor Defense and Regimental Commanders

**P**ARAGRAPH 10, Memorandum September 20, 1930 "Instructions for Coast Artillery Target Practices. Fiscal Year 1931" requires harbor defense and regimental commanders to forward copies of approved schedules of target practices to the Chief of Coast Artillery. These schedules have been slow in coming in and have not yet been received from all organizations. These schedules are of great assistance in arranging inspection trips by the Chief of Coast Artillery or his assistants. As these trips are now being planned it is urged that all schedules be forwarded as soon as practicable.

# COAST ARTILLERY ACTIVITIES

## Office of Chief of Coast Artillery

*Chief of Coast Artillery*  
MAJ. GEN. JOHN W. GULICK

*Executive*  
COL. H. L. STEELE

*Plans, Organization and Training Section*

MAJ. J. B. CRAWFORD  
MAJ. R. V. CRAMER  
MAJ. S. S. GIFFIN  
CAPT. J. H. WILSON  
CAPT. H. N. HERRICK

*Materiel and Finance Section*

MAJ. J. H. COCHRAN  
MAJ. C. H. TENNEY  
CAPT. F. J. MCSHERRY

*Personnel Section*

MAJ. G. F. MOORE

## The Coast Artillery School

### "In Conference"

IT has been said that more great men have slept in the main assembly hall of the Coast Artillery School than in any other one room. It has even been suggested that G. Washington included this hall among his many advertised sleeping places. This last claim is probably exaggerated.

The good old days of a Wednesday afternoon snooze through a dissertation on the "World's Supply of Petroleum" or "the Wider Aspects of Cosmogony" are no more.

The Wednesday afternoon conference has become a conference—and how. No longer is it merely a matter of dozing through the outpouring or reading of a treatise on "Who Cares" by a shaking, reluctant young Cicero in his best Meister-built uniform and well shined, but bearing-the-marks-of-horse feathers, boots. We now have what are known as "Research Studies" in which a too-serious member of the Advanced Class discusses such abstract, yet matter of fact, subjects as "Why the Scandinavians are the whitest race on earth."

And here is why the heretofore dormant audience has become alert and eager for knowledge. Immediately after the talk is completed the Commandant asks for questions or dissensions from the audience. And after these, or in the absence of which, he begins to ask embarrassing questions of the students themselves. It may be said that certain officers have had good practice in the extemporaneous reply "I don't know." As much as we bear with the Battery Officers Class in this ordeal, we cannot but feel that they have gotten the better of the innovation because, even though they cannot nap (the chairs are uncomfortable to sleep in) they no longer have to prepare and deliver a speech

themselves. Those of us who preceded them appreciate and are slightly jealous of this new freedom they have gained.

"Research Studies," in lieu of the former type of "conference," are in line with a new War Department directive. The former type of conference passed through various stages of evolution. Designated, as it was, originally, to give the student officer instruction and practice in the technique of public speaking, the purpose of the ordeal has developed from one objective to another. In early days the primary purpose was public speaking. Later, instructional and informatory matter was demanded in addition to the public speaking feature. The next transition was to public speaking plus essay composition; in some cases it became public *reading* rather than a speech. And now we have public speaking plus the development of mind and logical thought. Such subjects as the following are discussed in full under the new policy:

World Racial Distribution;

The Economic Basis of War in Ancient, Medieval and Modern Times;

Forms of Government;

Economic Characteristics Bearing on the War-Making Ability of Various Countries;

Elements of Military Strength and Weakness of Certain Countries. The listener as well as the speaker must exercise his powers of logic and imagination in order that his deductions (often called for) as to the effect of the propounded causes or conditions, may be rational. The topics assigned for study and discussion this year have borne largely on the basic causes of war and the requisites for the intensive war making ability of nations.

As a parting shot to the alumni of this school (let it be received with mixed emotions) *there is no more trotting without stirrups.*

## Harbor Defense of Honolulu

A REVIEW and inspection of the Harbor Defenses of Honolulu was held at Fort Ruger on January 17 in honor of the Honorable Lawrence M. Judd, Governor of the Territory of Hawaii and Brig. Gen. William E. Cole, the new commander of the Hawaiian Separate Coast Artillery Brigade. Upon arrival at Fort Ruger Governor Judd and General Cole were met by Colonel H. E. Cloke, Harbor Defense Commander, and his staff and were escorted to the parade ground where a review of all Harbor Defense troops was held. Following the review General Cole inspected the barracks, utilities and batteries and expressed himself as being well pleased with the appearance of the troops and materiel.

Due to the fact that the 64th Coast Artillery is unable to compete for the Commander's Coast Artillery Cup and Pennants for the training year 1929-1930, there will be no awards made this year.

Other units of the Brigade participated in the competition and exhibited uniformly high standards of efficiency.

A maximum rating of any organization was fixed at 10.0. Based upon this maximum units were arranged in order of merit as follows:

|                                           |      |
|-------------------------------------------|------|
| 2nd Battalion, 55th Coast Artillery ..... | 9.49 |
| 16th Coast Artillery .....                | 8.76 |
| 1st Battalion, 55th Coast Artillery ..... | 8.53 |
| 41st Coast Artillery .....                | 8.20 |
| 15th Coast Artillery .....                | 8.05 |

## Fourth Coast Artillery District

### Ft. McPherson, Atlanta, Georgia

Recent notes from Headquarters of the Fourth Coast Artillery District mention a number of changes which have occurred in the District Staff. Brigadier General Harold B. Fiske has relinquished command to Brigadier General William S. McNair. General McNair was appointed from the Field Artillery. He used to be a Coast Artilleryman and is a member of the Coast Artillery Association. General Fiske goes to Panama in command of the Division. Colonel Frank C. Jewell was relieved as Executive by Major Philip S. Gage, recently from Hawaii. Colonel Jewell is ill in Walter Reed Hospital. He is assigned to the Chief's Office.

Fourth Corps Area has published a letter calling attention to the policy to be followed in ordering reserve officers to active duty. Due to shortage of funds priority in active duty training will be given to reserve officers who have had no training during the past two years. Of these, R. O. T. C. graduates of 1928, 1929, and 1930 will be urged to attend. This will enable them to qualify for promotion to the next higher grade.

In the Fourth Coast Artillery District all organized reserve units were ordered to training annually under the present policy but only one-third of the officers of the unit may expect to attend each year. Excep-

tion is intimated in the case of the regimental commander.

The tightness which is becoming apparent in reserve training is a result of the new requirements for promotion and reappointment. It is, of course, also due to the fact that Congressional appropriation is not sufficient to offer all reserve officers two weeks active duty each year. Formerly all officers who applied for training were accommodated. As a result some officers have a record of attending camp for eight or nine consecutive years. The increased number of applications has caused Corps Areas to introduce a selective system of training. The system outlined above has caused some muttering in the ranks of the inveterate camp hounds. They say (when not talking for publication) "The government doesn't appreciate my interest and services. I went to camp year after year when the others didn't *want* to go. I like it. It is the principal kick I get out of my reserve commission. Now they ask me to step aside for some one who has to go to qualify for reappointment. It isn't just." Perhaps it isn't from one view point. Yet it should be realized that the War Department is interested in keeping the Officers Reserve Corps of approximately 100,000 up to this strength. Training opportunity must be offered equally to all in order that the entire Reserve Corps may consist of individuals trained to the same degree.

The summer training camps in the Fourth Coast Artillery District are given below.

### NATIONAL GUARD

|                |                                              |
|----------------|----------------------------------------------|
| Fort Barrancas | 206th CA (AA) (Ark. N. G.)<br>August 23-29   |
|                | 264th CA Bn. (HD) (GA. N. G.)<br>July 12-26  |
| Fort Moultrie  | 252d CA (TD) (N. C. N. G.)<br>July 12-26     |
|                | 263d CA (HD) (S. C. N. G.)<br>July 26-Aug. 9 |
| Key West Bks.  | 265th CA (HD) (Fla. N. G.)<br>Aug. 2-16      |

### ORGANIZED RESERVE

|                |                              |
|----------------|------------------------------|
| Fort Barrancas | 504th CA (AA) July 26-Aug. 8 |
|                | 524th CA (AA)                |
|                | 922d CA (AA)                 |
|                | 633d CA Btry (HD)            |
| Fort Barrancas | 534th CA (AA) Aug. 9-22      |
|                | 545th CA (AA)                |
|                | 924th CA (AA)                |

The 206th C.A. (AA) (Ark. N.G.) will march from Camp Pike, Arkansas, to Fort Barrancas. One week only will be spent at Barrancas, the remainder of the field training period being spent either at Camp Pike or on the march.

A C.M.T. Camp will be at Fort Barrancas during the latter half of June and the first half of July. A number of reserve officers will be recommended for duty as instructors during the camps but the period of this duty will not extend beyond two weeks for any one officer.

## The Coast Artillery Reserve Second Coast Artillery District

*Coast Artillery Reserve Activities in Connection with the Reserve Officers Association.* The State convention of the New York Department of the Reserve Officers' Association was held in Schenectady on January 16-17. The convention was a great success, for which a great deal of credit is due to the excellent arrangements of First Lieutenant Frank A. Droms of the 514th CA, president of the Schenectady Chapter. Lieutenant Droms was ably assisted by Lieutenant Horace S. Van Voast, Jr., and Thomas H. Leary who are also members of the 514th CA.

The following officers from a distance were in attendance at the convention: Colonel Robert S. Allyn, commanding the 607th CA, New York, who is well known through his activity in Reserve affairs and has just served as president of the New York State Department; Major Nicholas E. Devereux, Jr., of Utica; Colonel Frederick W. Stopford, CAC, Executive, Coast Artillery Reserve, Second Coast Artillery District, also was present from New York and received a warm welcome from Schenectady Reserve officers of all branches. Colonel Stopford through his visits about the State in connection with Reserve matters is well known to Reserve officers over a wide territory.

The month of January has been marked by active participation of all Reserve officers in the annual business meetings, election and installation of officers. Of particular interest to Coast Artillery officers is the election to the presidency of the Manhattan Chapter and members of the State Council of Captain T. B. Hilton, QMC-Res. Captain Hilton has been active for some time in Coast Artillery training and is at present attached to the 908th CA, preparing for transfer to the Coast Artillery.

*Coast Artillery Association:* Colonel Robert S. Allyn, commanding the 607th CA, represented the Reserves of this Coast Artillery District at the meeting of the Coast Artillery Association in Washington on January 10. In a letter to Colonel F. W. Stopford, Colonel Allyn reported that the organization of branch groups is contemplated and that General Gulick is very anxious to have these organizations initiated in all localities. Later, in a conference with Colonel Allyn, Colonel Stopford expressed his intense interest in the Association as being the only common meeting ground for all components and the means by which better understanding may be perfected and any jealousy that may exist may be removed. Colonel Allyn on January 14 proposed to Colonel Stopford that in order to get the three components together the Chief of Coast Artillery as president of the Association be requested to delegate one or more officers of each component, who are members of the Association, to meet and discuss plans to unite in one local branch. This was done. As a result General Gulick asked General Hatch to take the initiative in the New York area and consult with General Byrne, General Taylor, General Borden, Colonel Stopford, Colonel Kimberly, Colonel

Allyn, Colonel Stoddard and others. General Hatch will call a meeting at an early date. In his letter, General Gulick, did not wish it to appear that he recommends the dismemberment of any local social or unit organization which has existed heretofore.

*Troop Schools and Extension School Work:* A marked increase in activities of the extension school work has been noted during the present year. In the majority of cases the students have progressed to the examination in the particular subcourse undertaken. That part of the extension school work which has been conducted in connection with the troop schools has been carried out in two ways, and a great deal of interest is now being taken in determining which will prove the more successful. One method has been to require all lessons to be written up and submitted. When the student has been present at troop school, he has usually received his first instruction there and has then written up the lessons at home. The other method has been to require the student to prepare his lesson before coming to troop school to the extent that he could answer questions and take part in the discussions. In case the student was unprepared, he was required to submit the written lessons. Before any student is permitted to take the examination, he must have submitted all written lessons in the one case, or in the other case, have prepared for class, or by written work, all lessons. Many students are now getting busy on clearing up their back work so they may be permitted to take the examination and the results are of particular interest to the advocates of the separate methods.

Extension School, Metropolitan and Wilmington Areas—to January 31, 1931.

| Unit  | Strength | Lessons Completed | Subcourses Completed |
|-------|----------|-------------------|----------------------|
| 502   | 37       | 55                | 3                    |
| 521   | 58       | 90                | 5                    |
| 530   | 25       | 63                | 3                    |
| 533   | 39       | 69                | 0                    |
| 539   | 36       | 152               | 6                    |
| 602   | 38       | 108               | 6                    |
| 607   | 53       | 413               | 25                   |
| 619   | 37       | 72                | 3                    |
| 620   | 26       | 69                | 1                    |
| 621   | 55       | 348               | 16                   |
| 908   | 29       | 45                | 1                    |
| 909   | 39       | 271               | 21                   |
| 910   | 25       | 39                | 0                    |
| Misc. | 29*      | 49                | 3                    |
| CMTC  | 7*       | 1                 | 0                    |
| CIV.  | 22*      | 59                | 4                    |
| 5th   | 2*       | 0                 | 0                    |
| 7th   | 3*       | 7                 | 1                    |
| 62nd  | 3*       | 2                 | 0                    |
| Total |          | 1912              | 98                   |

\*Enrollments.

Extension School, Northern New York Area—to December 31, 1930.

|     |    |     |    |
|-----|----|-----|----|
| 513 | 23 | 70  | 5  |
| 514 | 71 | 562 | 23 |
| 522 | 36 | 204 | 5  |



| Unit  | Strength | Lessons Completed | Subcourses Completed |
|-------|----------|-------------------|----------------------|
| Misc. | 26*      | 144               | 1                    |
| CMTC  | 4*       | 41                | 1                    |
| CIV.  | 14*      | 149               | 6                    |
| Total |          | 1170              | 41                   |

\*Enrollments.

*Active Duty Training:* Information has been received from Corps Area Headquarters that a limited number of Reserve officers will be permitted to receive active duty training before June 30. This information will be sent out to those eligible. It is contemplated that a much larger number will desire this training than the allotted funds will permit. Priority will be given to those who have had no active training during 1929 and 1930. This is an excellent opportunity for those newly appointed from the ROTC to get in the active duty required for their promotion and it is urged upon those who are now otherwise eligible for promotion to take this final step in making another grade. This is also a fine chance for those who need the credit required to remain on the active list. Any one desiring to take advantage of this opportunity should lose no time in submitting an application.

*The 621st Coast Artillery, Wilmington, Del.*—Major Meade Wildrick, CAC, Unit Instructor.

The usual Tuesday night conferences of the 621st Coast Artillery were held at the State Armory during January, about thirty being present at each conference. The subjects of the conferences were those covered by lessons 1, 2, 3 and 4 of Battery Officers Subcourse No. 6, on Artillery Tactics. After each conference a competitive rifle and pistol match is held, three battalion teams participating therein. A cup has been presented by Captain Ross D. Pillsbury and 1st Lieutenant William L. West to be competed for each week. To date it has been won by the 3rd and 2nd Battalions respectively.

On January 13 the monthly Reserve Officers Association meeting was held at the University Club. Captain Wiley F. O'Mohundro, 1st Tank Company, Miller Field, gave a very interesting talk on the Army Tank Corps. This was followed by a smoker.

A committee has been appointed consisting of Captain Blackson, Captain Pillsbury and Lieutenant Sinclair to assign and procure some regimental stationery with the Regimental Crest embossed thereon. The officers in the regiment are very much pleased at the promotion of Lieutenant Colonel Tanner, the Regimental Commander, to the grade of Colonel. Colonel Tanner is one of the youngest Colonels in the Reserve Corps.

*Upstate New York Coast Artillery Reserves.*—Major Joseph C. Haw, CAC, Unit Instructor.

*Results of Recruiting Campaign:* The recruiting campaign, which was inaugurated about October 1, 1930, and described in the November issue of the COAST ARTILLERY JOURNAL, has been remarkably successful. By the time all applications and transfers now actually in the hands of higher authority have been approved, the combined strength of the three regiments

will have been increased by about thirty-two officers. As the combined active commissioned strength of these regiments at the time the campaign began was but ninety-three Coast Artillery Reserve officers eligible for assignment, active duty and promotion, this will constitute a gain of thirty-four percent in active commissioned strength.

*The 513th Coast Artillery (AA):* Col. John P. Young, CA-Res., Ithaca, New York, Commanding.

On January 22 the Unit Instructor delivered a talk on "The Coast Artillery Corps, its Missions and Activities," to the Cadet Officers Club of the Reserve Officers Training Corps of Cornell University. The arrangements were made by Colonel Young and the Professor of Military Science and Tactics, Colonel J. W. Beacham, Jr., Infantry. Several members of the 513th attended the talk, which dealt principally with antiaircraft artillery. Colonel Young has been very active in contacting Reserve officers of other branches who had previously applied for transfer to the Coast Artillery Reserve, and the 513th is receiving some excellent officers from this source.

*The 514th Coast Artillery (AA):* Major Nicholas E. Devereux, Jr., Utica, N. Y., Commanding.

On December 16 Colonel Stopford, Reserve Executive of the Second Coast Artillery District visited Schenectady and attended a dinner given by the Reserve officers of the city at which thirty-seven persons were present. Fifty-seven attended the general meeting which followed. Colonel Stopford made splendid addresses on both occasions. He appeared to be well satisfied with the progress of the 514th Coast Artillery (AA) and remarked especially upon the success of the weekly and monthly troop schools. This general meeting was arranged through the courtesy of Major James N. Peale, Infantry, Senior Unit Instructor in Schenectady, and was substituted for the monthly troop school meeting of the regiment.

During December and January attendance at weekly troop school meetings in Schenectady was excellent. The instructors were: First Lieutenants Marcus R. Staley and Henry V. Rector, and Second Lieutenants Horace T. Helfrich, Edward A. Leach and Edgar A. Whitehead.

Weekly meetings in the evening were tried in November and were not successful. The Unit Instructor, through the courtesy of First Lieutenant Henry V. Rector of this regiment, then secured the use of a classroom in one of the General Electric Company's buildings. This building is conveniently located at the exit of the General Electric Company's works, where most of the members of this regiment are employed. Meetings are held every Friday, from 5:30 to 6:30 P. M. This plan has been notably successful.

The January troop school meeting was held on Tuesday, January 20, with a fine attendance. The instructors were 1st Lieutenant Allen S. Hotchkiss and 2nd Lieutenant William V. Honey. The regimental commander came from Utica to attend the meeting, as he has done on several occasions. After the conclusion of the instruction, Colonel George W. England.

Infantry. Commanding the Schenectady General Depot, delivered a splendid talk on the Philippines.

*The 522d Coast Artillery (AA)*—Lt. Col. Frederick W. Gilchrist, CA-Res., Commanding.

For the first time in years troop school meetings of this regiment are being held every month in Buffalo and Rochester. The December meetings were very efficiently engineered by Lt. Col. Gilchrist and First Lieutenant Alfred D. Heggie, of Rochester, while Captain James P. Toler, Jr., of Buffalo, and First Lieutenants Calvin A. Brown and Ward L. Hamilton of Rochester conducted the instruction. The attendance was very good.

On January 24 the Unit Instructor conducted the monthly troop school meeting of the regiment at Lockport. The meeting was followed by a Regimental Dinner, the first for several years. Detailed arrangements for the dinner were made by First Lieutenant Wallace G. Campbell of Lockport. Lack of space forbids the inclusion of a detailed account of this dinner, but it can be said that the affair was a great success from start to finish and everyone is already looking forward to the next dinner, with the hope that it will become an annual affair.

### The 531st, 949th and 950th Coast Artillery (AA) Reserve Regiments

These regiments allocated to Chicago are commanded by Lieutenant Colonel Howard W. Hodgkins, Major Robert M. Zacharias, and Lieutenant Colonel Fordyce L. Perego, respectively. Major C. J. Herzer, CAC, is the Unit Instructor. For the purpose of inactive duty training the units are combined into a group. Group schools, in which extension school courses are covered, meet twice a month. At present there are classes in Basic Gunnery, conducted by 1st Lieutenant John S. Wojciechowski; and Antiaircraft Artillery Tactics and Combat Orders, conducted by the Unit Instructor. Three other courses are scheduled to start in the near future. In addition there is a monthly regimental conference, preceded by a dinner. Attendance at both schools and conferences is very satisfactory and is, through the efforts of all concerned, steadily increasing. Seventy-seven percent of the officers assigned to the 531st, 42 and 50 per cent of those assigned to the 949th and 950th CA (AA), respectively are enrolled in group or extension courses.

A progressive map problem in the course of which principles of tactics, technique, organization, combat orders, logistics, etc., are discussed freely and in great detail, is the principal feature of the regimental conferences.

The regiments greatly regret the loss of Colonel H. C. Barnes, until recently Chief of Staff of the now defunct Coast Artillery (AA) Group, Sixth Corps Area, who retired a short time ago. Colonel Barnes had made many friends by his energetic and untiring efforts to further the interests of the Coast Artillery Reserve. All the officers offer him their sincerest wishes for a bright and carefree future.

Lieutenant Colonel Sanford E. Church is receiving

congratulations on the occasion of his recent promotion. Colonel Church, a prominent electrical engineer, is the Executive of the 531st and 2d Vice-President of the Cook County Chapter, Reserve Officers Association. His promotion was well earned. He is one of our most active officers.

The Antiaircraft Sub-Chapter of the Cook County Chapter Reserve Officers Association is very active in promoting training and esprit de corps. It recently elected as its officers for 1931: Major Rolland E. Hubert, 949th CA (AA), President; Major Hiram H. Maynard, 950th CA (AA), Vice-President; 1st Lieutenant Richard B. Scharff, 531st CA (AA), Secretary and Treasurer.

The 531st and 950th CA (AA) have been ordered to active duty at Fort Sheridan, Illinois, for the periods July 5-18 and August 3-16, respectively. A special preparatory course for the officers of these two regiments will commence soon.

### Harbor Defenses of Sandy Hook

The "50-50 System," inaugurated at Fort Hancock, works. It works because it is systematic. It is a grand and glorious feeling for a battery commander to know that he is going to have all of his men for gunners instruction on Wednesday, Thursday, and Friday. No wails of the Quartermaster or Artillery Engineer can turn a resolute Adjutant from his fixed purpose of "No fatigue." Battery commanders knowing that five days instruction must be given in three have cut out all lost motion by preparing instructors the day before for the next day's work. Classes are actively supervised by officers, and "squad-room artillery arguments" are quickly settled in order that the course of instruction may move smoothly. Tests are held all during the period in order that men may be passed to other subjects without loss of time. The men are taking great pride in their ability to master the different subjects.

The first hour of each instruction morning is a concentration period for special duty men, and it is surprising the number of these men who have qualified in all subjects, thereby being released until actual examination takes place.

It is confidently expected that every member of the command will be a qualified gunner before the open season begins. That is one half of the "50-50 System."

The other half is Post Maintenance. This is also working out in a most satisfactory manner on account of System.

On Mondays and Tuesdays every man able to sit up and take nourishment is turned out to work. But before they go out the Quartermaster or Artillery Engineer has carefully laid out the task for each detail, the number of tools necessary for each job have been determined and there is no lost motion in getting on the job. Selected non-commissioned officers are placed directly in charge of each task, and an officer supervises. This supervision is not a mere "Carry on, Sergeant," it is active and cuts to a minimum the lost motion of "just another fatigue detail."

## The 542d Coast Artillery Manchester, N. H.

THE 542d Coast Artillery (A) was organized on June 2, 1924, under the provisions of the National Defense Act, and designated as G. H. Q. Reserve Troops, 209th Artillery Brigade.

The regiment is allocated to the State of New Hampshire. The location of the headquarters and unit areas of the various batteries within the regiment follow:

| Unit              | Headquarters      | Unit Area      |
|-------------------|-------------------|----------------|
| Hq. & Hq. Battery | Manchester, N. H. | State at large |
| Service Battery   | Concord, N. H.    | State at large |
| Hq. & Combat Tn., |                   |                |
| 1st Bn.           | Portsmouth, N. H. | State at large |
| Battery "A"       | Concord, N. H.    | State at large |
| Battery "B"       | Portsmouth, N. H. | State at large |
| Battery "C"       | Laconia, N. H.    | State at large |
| Battery "D"       | Durham, N. H.     | State at large |
| Hq. & Hq. Btry.,  |                   |                |
| 2nd Bn.           | Nashua, N. H.     | State at large |
| Battery "E"       | Manchester, N. H. | State at large |
| Battery "F"       | Rochester, N. H.  | State at large |
| Battery "G"       | Plymouth, N. H.   | State at large |
| Battery "H"       | Portsmouth, N. H. | State at large |

The first reserve officer to command the regiment was Lieutenant Colonel Waldemar P. Adams, CA-Res., who assumed command on October 31, 1924.

The first tour of active duty was held at Fort Terry, N. Y. from July 11 to July 25, 1926. Forty-four officers and 3 enlisted reservists accompanied the regiment to camp.

The regiment was practically dissolved in 1927 by the transfer of officers to other regiments, but was reconstituted as an active unit in 1930. The present Regimental Commander is Lieut. Colonel Beryl W. Randall, CA-Res. There are at present 33 officers assigned, all living in the State of New Hampshire. The 542d is now exclusively a New Hampshire regiment.

December 6, 1930, the regiment had a very successful and interesting rally at Durham, seat of the University of New Hampshire. The program consisted of a dinner at the Commons of the University, a film-lecture on the latest developments in antiaircraft materiel by Major G. M. Barnes, Ordnance Department, of Watertown Arsenal, and a conference. Present were Colonel George H. McManus, CAC, Executive for Reserves, First Coast Artillery District; Colonel S. G. Shartle, CAC (DOL), Executive for Coast Artillery Reserves of Maine, New Hampshire and Vermont, stationed in Portland, Maine; Major H. E. Pitz, CAC, Professor of Military Science and Tactics at the University of New Hampshire; Major John B. Martin, CAC (DOL), Instructor New Hampshire Coast Artillery National Guard, of Concord, New Hampshire; Lieut. Colonel Gordon L. Carter, CA-Res., Executive 906th CA (AA); Major Albert W. Waterman, CA-Res., and several other officers of the 906th from Portland, Maine; Majors I. T. Washburn and Arthur L. Smith and several officers of the 197th C. A. (AA) National Guard of New Hampshire; Major John E. Lawler, AG-Res., of Portland, Maine; Lieut. Colonel Beryl W. Randall, CA-Res., and officers of the 542d.

The above list is indicative of the interest of the widely scattered personnel of the Coast Artillery units of this area. The assembly was an opportunity for personal contacts of officers of the Regular Army, National Guard and Reserves and for discussion of mutually interesting problems.

To the authorities of the University of New Hampshire and, especially to Major Pitz, appreciation is expressed on behalf of the 542d for the excellent local arrangements and facilities made available for the dinner and lecture.

The regiment and its guests are indebted to Major Barnes for a very instructive talk, which not only enlightened his audience as to matters of special interest to artillerymen, but left the impression that the Ordnance Department is loyally cooperating with the artillery and is most progressive.

## The 975th Coast Artillery (AA) Los Angeles, Cal.

*By 2d Lieut. Lloyd B. Knox, C. A.-Res.*

THE first meeting in December was devoted to the discussion of the various subjects covered in the subcourse on Applied Gunnery, Fire Control and Position Finding for Antiaircraft Artillery. Captain A. L. Enger, commanding the Second Battalion conducted the instruction. Lt. S. W. Binckley dissertated diligently with an ability indicative of much experience, on the subject of wind and its effect on the oft mentioned projectile and the consequent change in its trajectory.

The First Battalion held an informal box supper, dance and card party on the evening of December 6. The primary objective of such an entertainment was to permit those several unfortunates who for various reasons were unable to attend camp with us this summer, to get better acquainted with the rest of us. The informal nature of the occasion gave the ladies an excellent opportunity, while brewing several gallons of coffee, to get well acquainted.

The attractive setting for this get together affair was the very suitable and much to be recommended club house of the Los Angeles City Playground on Yosemite Avenue. Music was furnished by Paul Whiteman's Orchestra and others equally or nearly as good by means of special arrangements with the Victor Phonograph Co., in fact by means of a very good phonograph and radio combination. The party ended with all attending of the unanimous opinion that it was a great success.

The regular meeting of the entire regiment was held December 15th and in place of being held as usual at the Reserve Headquarters was held in the private banquet room of a restaurant in Los Angeles. After enjoying the dinner the tables were cleared for action and with sleeves rolled and pencils sharpened the regiment opened fire on the examination for which it had been preparing. The battle was over by nine thirty with the objective gained and remarkably few casualties.

## Coast Artillery Reserve Richmond, Virginia

*Major E. B. Gray, Unit Instructor*

### Regimental Notes of the 913th, 916th and 917th Coast Artillery (AA)

THESE three antiaircraft regiments are all comparatively young in the service. Their origin dates from the issuance of the War Department document defining the new mission of the Coast Artillery Corps within the continental limits of the United States, and prescribing antiaircraft training to be of paramount importance for all units of the Coast Artillery.

While young in tradition and service, the officers and enlisted reservists assigned to these organizations may congratulate themselves that for years to come there will be vacancies in all grades, and it will be several years before anyone is denied a promotion because of lack of a vacancy. This condition is a logical result of the wise provision of the War Department prescribing a minimum number of years service in each grade. In many divisional organizations of the Organized Reserve, officers have secured a certificate of capacity for the next higher grade, have served the requisite time in grade, and yet cannot be promoted because vacancies do not exist.

Thus we see there are compensations in belonging to a newly born regiment. The officers now assigned have an opportunity to "grow up" together, to perpetuate friendships commenced in R. O. T. C. units when fortunate enough to be ordered out, and gradually to build up an esprit within the organization that will do much more to insure its success in every line of endeavor—whether the goal be a certain enrollment in the Extension School, a score at target practice, or a more serious mission on the field of battle.

The 913th Coast Artillery, commanded by Major Robert R. Hendon, Jr., is located in Washington, D. C. The members of the regiment are looking forward with enthusiasm to attendance at the first camp of the regiment during the period August 2-15, 1931. While many of the officers have attended camp with other units during past summers, the camp next August will be the first active duty training period of the regiment as a unit. The regimental commander hopes for a hundred per cent attendance. The strength of the regiment is only forty-three, so the matter of reduced appropriations will not affect any member of the 913th.

Major Hendon was recently elected President of the Coast Artillery Club of Washington, D. C. The first conference of the present instruction year was held on December 9, 1930, and seventeen officers of the regiment were in attendance. These conferences will be held in Washington the second Tuesday of each month at the headquarters of the Organized Reserve, in Room 701, Walker-Johnson Building, 1734 New York Avenue, N. W.

While the members of the 913th are showing a commendable interest in the Extension School Courses, as evidenced by enrollments and lessons completed, the

work of one officer is worthy of special mention. Captain John Caswell, Jr., who commands the first battalion, has completed fifty-one lessons, and six subcourses since July 1, 1930. During the months of October and November alone this officer completed four subcourses in their entirety, with marks ranging from 93 to 99 per cent. In addition Captain Caswell keeps in constant touch with the officers of his battalion through letters and personal calls.

The 916th Coast Artillery, commanded by Major William W. Nairn, Jr., is located in Richmond, Virginia, and has a present total strength of seventy-five. This regiment attended active duty training at Fort Monroe, last August, its first active duty training as a unit, and made an excellent showing. Two Sleeve targets were brought down at the preliminary practice with three-inch battery, although the ammunition allowance was only one hundred fifty rounds for the entire camp.

Regimental conferences are held in Richmond on the third Wednesday of each month at the 80th Division conference room, Post Office Annex, 1017 East Main Street. Members of the regiment have been turning out well, and showing increasingly active interest. These conferences are progressive in nature, and for the next few months will be devoted to a study of the World War. Opportunity is given to reservists to conduct the conferences, and all present are encouraged to volunteer information that they may have absorbed from other sources. Officers of other branches are always in attendance, and officers of the 916th are always welcome at the monthly division conferences.

The regiment has made a gratifying record in the Extension School work. Particularly outstanding during the past month has been the work of First Lieutenant Charles Millhiser, II, who has completed twenty lessons very creditably in thirty-five days.

Many members of the regiment in the vicinity of Richmond had the privilege of inspecting the camp site of the 69th Coast Artillery while encamped at the State Fair Grounds during the period November 14-17, en route from Aberdeen Proving Ground, Maryland, to Fort McClellan, Alabama. The 69th was reviewed on November 15, at the Jackson Monument by Colonel J. Fulmer Bright, Commanding the 183d Infantry, and Mayor of Richmond, made an excellent appearance. Hundreds of civilians also visited the camp site and enjoyed the interesting search light demonstrations.

The regimental commander, Major Nairn, is a graduate of the Special Course for Reserve and National Guard officers at the Command and General Staff School, and was recently assigned to command the Branch Assignment Group.

The 917th Coast Artillery, commanded by Lieutenant Colonel Harry P. Newton, also a graduate of Leavenworth, has its headquarters in Roanoke, Virginia. Its personnel of seventy-three is scattered throughout the western part of the state. Monthly conferences are held under the auspices of the 80th Division in Lynchburg, Roanoke, Charlottesville, and Staunton, as well as in Richmond, Virginia.

# COAST ARTILLERY ORDERS

Brig. Gen. Harold B. Fiske, U. S. A., from 4th C. A. Dist., Atlanta, Ga., to Panama, sailing New York, March 26.

Col. William F. Hase, from Philippines, to Office of the Chief of Coast Artillery, Wash. D. C., instead of Fort Monroe.

Col. Edward Kimmel, Ft. Totten, to Army and Navy General Hosp., Hot Springs Natl. Park, Arkansas, for treatment.

Lt. Col. Joseph A. Green, from duty in the office of the Chief of Staff, Wash., D. C., to 61st, Ft. Sheridan, June 30.

Lt. Col. Lloyd B. Magruder from student, Army War College, to War Department General Staff, June 30.

Lt. Col. Sherman Miles, transferred to the Field Artillery, Jan. 29.

Lt. Col. James B. Taylor, from 69th, Ft. McClellan, Ala., to the Philippines, sailing New York, May 5.

Lt. Col. Lewis Turtle, from Hawaii, to 52d, Ft. Hancock, N. J.

Major Kenneth T. Blood, from Panama to Coast Artillery School, Ft. Monroe, as instructor.

Major Floyd C. Carl, C.A.-Res., to active duty March 14, C. and G. S. School, Ft. Leavenworth, Kansas.

Major Joseph F. Cottrell, Brooklyn, N. Y., to Europe with the Pilgrimage N. Y., to Europe, with Pilgrimage of Mothers, April 15.

Major George D. Davidson, Letterman Gen. Hosp., Presidio of San Francisco, will appear before the Army retiring board for examination.

Major Fred M. Green, from Hawaii, to 62d, Ft. Totten.

Major Robert E. Guthrie, from 11th, Ft. H. G. Wright, to Panama, sailing New York, May 5.

Major John P. Smith, 12th, Ft. Monroe, to Newport, R. I., as student, July 1.

Major Rodney H. Smith, from Hawaii, to War Department General Staff, April 18.

Major Edwin B. Spiller, from Philippines to 6th, Ft. Winfield Scott, Calif.

Major Sidney S. Winslow, from instructor, Coast Artillery School, Ft. Monroe, to Hawaii, sailing New York, May 26.

Capt. Delbert Ausmus, from 14th, Ft. Worden, Wash., to the Philippines, sailing San Francisco, May 27.

Capt. Philip F. Biehl, from Hawaii, to 12th, Ft. Monroe, Va.

Capt. E. T. Conway, from student, Coast Artillery School, Ft. Monroe, Va., to Hawaii, sailing New York, May 5.

Capt. Edward G. Cowen, from Philippines, to 69th, Ft. McClellan, Ala.

Capt. Leonard R. Crews, from 11th, Ft. H. G. Wright, to the Philippines, sailing New York, May 5.

Capt. Bernard C. Dailey, from Philippines, to 51st, Ft. Monroe, Va.

Capt. Jesse K. Freeman, from Panama, to 11th, Ft. H. G. Wright.

Capt. William Hesketh, 62d, Ft. Totten, to France (Pilgrimage of Mothers), sailing New York, April 8.

Capt. Don R. Norris, from 63d, Ft. MacArthur, Calif., to 61st, Ft. Sheridan, Ill.

1st Lt. Joe F. Simmons, 12th, Ft. Monroe, Va., to Panama, sailing New York, April 3.

Capt. Chas. H. Stewart, Fitzsimons Gen. Hosp., Denver, Colorado, will appear before Army retiring board for examination.

Capt. Edward L. Supple, 63d, Ft. MacArthur, to Hawaii, sailing San Francisco, April 25.

Capt. Francis S. Swett, from 6th, Ft. Winfield Scott, Calif., to 61st, Ft. Sheridan, Ill.

1st Lt. Arnold D. Amoroso, to Hawaii, sailing New York, March 18, instead of Feb. 17.

1st Lt. Alvin T. Bowers, from 7th, Ft. Hancock, N. J., to the Philippines, sailing New York, May 5.

1st Lt. Ben E. Cordell, from Philippines, to 12th, Ft. Monroe.

1st Lt. Hamilton P. Ellis, from Philippines, to 12th, Ft. Monroe, Va.

1st Lt. George F. Heaney, Jr., from Ft. Banks, Mass., to the Philippines, sailing New York, May 5.

1st Lt. Walter L. McCormick, from 51st, Ft. Monroe, to the Philippines, sailing New York, May 5.

1st Lt. Floyd A. Mitchell, from Hawaii, to 12th, Ft. Monroe, Va.

1st Lt. John D. Mitchell, from Panama, to 69th, Ft. McClellan, Ala.

1st Lt. Glenn Newman, 7th, Ft. Dupont, to 52d, Ft. Hancock.

1st Lt. Robin B. Pape from student, Coast Artillery School, Ft. Monroe, to 69th, Ft. McClellan, Ala.

1st Lt. James G. Renno, from student, Coast Artillery School, Ft. Monroe, to Hawaii, sailing New York, July 17.

1st Lt. Joseph S. Robinson, instructor, Mass. N. G., Boston, to France (War Mothers Pilgrimage), sailing New York, April 8.

1st Lt. Grayson Schmidt, from Philippines, to 51st, Ft. Monroe, Va.

1st Lt. Leo D. Vichules, from Hawaii, to 12th, Ft. Monroe.

1st Lt. Alan D. Whittaker, Jr., retired Jan. 31, on account of disability.

1st Lt. Henry K. Williams, Jr., Picatinny Arsenal, Dover, N. J., to Hawaii, sailing New York, June 23.

1st Lt. Clark C. Witman, 10th, Ft. Adams, to the Philippines, sailing New York, May 5.

1st Lt. Walter J. Wolfe, from 11th, Ft. H. G. Wright, to Hawaii, sailing New York, March 18.

2d Lt. Donald J. Bailey, promoted 1st Lt., January 14.

2d Lt. James G. Bain, from Philippines, to 61st, Ft. Sheridan, Ill.

2d Lt. Oscar B. Beasley, from 62d, Ft. Totten, to the Philippines, sailing New York, May 5.

2d Lt. Harry R. Boyd, from Air Corps, March Field, Riverside, Calif., to the Philippines, sailing San Francisco, Feb. 2.

2d Lt. Frederick E. Day, from Philippines, to 14th, Ft. Worden, Wash.

2d Lt. John B. F. Dice, from 13th, Ft. Barrancas, to Hawaii, sailing New York, March 18.

2d Lt. Edward A. Dodson, transferred to Air Corps, Dec. 11.

2d Lt. Daniel C. Doubleday, transferred to Air Corps, Dec. 11.

2d Lt. John P. Doyle, Jr., transferred to Air Corps and from 1st Cavalry, Ft. Clark, Texas, to the Air Corps, Brooks Field, Texas, March 1.

2d Lt. Carl H. Fernstrom, from 62d, Ft. Totten, to Hawaii, sailing New York, March 18.

2d Lt. Rudolph Fink, Kelly Field, transferred to Air Corps, Dec. 11.

2d Lt. Noble T. Haskensen, from Hawaii, to 52d, Ft. Hancock.

2d Lt. Robert F. Haggerty, from Air Corps, March Field, Riverside, Calif., to Hawaii, sailing San Francisco, March 10.

2d Lt. William H. Hennig, from Hawaii, to 62d, Ft. Totten, N. Y.

2d Lt. Virgil M. Kimm, from Hawaii, to 14th, Ft. Worden, Wash.

2d Lt. Paul A. Leahy, from Philippines, to 62d, Ft. Totten.

2d Lt. Aloysius J. Lepping, from Hawaii, to 11th, Ft. H. G. Wright.

2d Lt. Thomas B. McDonald, Kelly Field, transferred to Air Corps, Dec. 11.

2d Lt. Marvin J. McKinney, from Panama, to 69th, Ft. McClellan, Ala.

2d Lt. James W. Mosteller, promoted to 1st Lt., Jan. 4.

2d Lt. Charles J. Odenweller, from Air Corps, March Field, Riverside, Calif., to Hawaii, sailing San Francisco, March 10.

2d Lt. Arthur Roth, from Hawaii, to 51st, Ft. Monroe, Va.

2d Lt. Robert F. Tomlin, from Panama, to 13th, Ft. Barrancas, Fla.

Warrant Officer Paul E. Melrose, 13th, Ft. Barrancas, to Hawaii, sailing New York, May 5.

Warrant Officer Charles A. Roach, from Hawaii, to 13th, Ft. Barrancas, Fla., as band leader.

Mast. Sgt. Allen L. Greenawalt, Hq. Bat., 6th, retired, Ft. Winfield Scott, Calif., Jan. 31.

Mast. Sgt. John F. Steffey, Hq. Bat., 12th, retired, Ft. Monroe, Va., Jan. 31. Mast. Sgt. John Vogel, 55th, Ft. Kamehameha, retired, Feb. 28.



# YOU TELL EM

## He Says You Have to Like It

The Editor, THE COAST ARTILLERY JOURNAL:

Dear Sir:

Maybe I'm wrong.

I'm one of these junior reserve officers—to be specific, a shavetail with gold bars so new they haven't had time to tarnish—that don't seem to take a proper interest in reserve work. That is, don't get me wrong, I do take an interest but many of us don't.

According to column after column in the COAST ARTILLERY JOURNAL, *The Reserve Officer*, *The Military Engineer* (all of which I read diligently) and probably every other service publication, the turnover among the junior grades in the reserve component is all out of proportion to something or other.

The War Department spends much time worrying and even writing about the puzzling phenomenon. Some say that uniforms should be required at reserve functions to instill a feeling of solidarity among reserve officers, and others say that uniforms should not be required, because the younger men feel unduly conspicuous in a uniform, and that a more informal air is desired to lure the smooth-cheeked second looys to meetings. They say that more meetings should be held to promote a closer feeling among the officers, and that fewer meetings should be held because reserve officers have a living to make and their spare time is limited. They say—well, some say one thing, some say another. None of them seem to know.

Hiding behind my mask of anonymity I can say that there is no problem as far as I, personally, am concerned. For my grade, I am well near the top of the list in correspondence lessons completed. I didn't go to camp last summer because by the time I arranged my affairs so I could go, the lists were filled. I have missed one conference center meeting this year, and my excuse would get by any first sergeant in the Coast Artillery. Why am I such a paragon of all the virtues? Because of a deep-seated feeling of responsibility toward my duty to my country? A very small part of the reason. Because of the feeling of personal benefits to be received? A slightly larger part. Because I like it? There you have it!

I spent four years in the ROTC and two years in the CMTC because I like it. I'm going to camp every chance I get because I like it. I work subcourses because I like them.

Getting down to cases, I think the turnover in the lower commissioned grades of the reserve component would be a fraction of its present value if some attempt were made to make these juniors like it. How? As one of the problem children, here's my attempt at an answer.

First, be more selective in commissioning ROTC graduates. Out of thirty men who were commissioned in my class, I would have recommended less than half for the honor (It *should* be an honor, darnit). There should be a fine distinction in holding a commission that should go with the privilege. The right kind of man would go to greater lengths to retain his commission if he were sure it set him apart as one of a chosen body of men.

Second, why not hold unit meetings in the larger cities where it is possible? As assistant executive of Q Battery, Umphry Umphred CA. I am a name on a mimeographed sheet, and am quite liable to act as such. However, if my battery commander calls me and the other two officers of the battery to a meeting of the officers of the battery, it is quite possible that my commission may take on some significance.

Third, (this is going to be tough, I admit) how about more active duty training for those who want it, and up to two months if desired? I have heard all about congress, appropriations, budgets, soft-pedaling of reserve training to quiet rampant pacifists, etc., but if it can be wangled, it's almost a sure cure. As an alternative, why not cut off the list those who do nothing but go to camp, neglecting inactive training, and expend the savings for the boys who do not allow the winter weather to cool their ardor? Shhhh! If I'm not careful I'll be saying that they use their commissions to obtain free vacations.

Fourth, remove the mystery about the military. Many a reserve officer would rather face a bayonet than visit his unit instructor. He feels that that worthy gentleman is fenced in behind barbed wire, waiting for a chance to harpoon the unlucky reservist who forgets to salute when in the royal presence, or who fails to stand at attention while asking questions about a subcourse. Far-fetched? Not at all. Wrong? Of course. For the most part, the unit instructors are the salt of the earth, and the most human men who clutter up our vale of tears. But the burden of proof is on the officers. Personal letters, with unnumbered paragraphs, beginning "Dear Blank" might be a step in the right direction. Unmilitary? Yep, but you can sock the military end of it to us at camp. There is a first lieutenant of Coast Artillery on duty at the university from which I graduated who calls every man in his classes by the man's nickname, but at camp he commands more respect and gets stricter discipline than the camp commander. It can be done without being subversive to military discipline. Lieut.—well, I'd like to tell you his name but I can't get it by the editor—gets my vote for president any time he wants it, but I won't forget to salute him within the confines of Fort Monroe. Just a case in point.

Fifth—but why drag this on? If you have survived this much of the article, you probably have my point. Make the young punks like it. I may have mentioned that before. It seems to me, sometimes, that those responsible are doing all they can to make the younger reservists like it, except to find out what they *do* like.

And, as a final thought, maybe the loss of some of the younger officers isn't more than just a "paper" loss anyway.

Maybe I'm wrong.

Problem Child.

From Our Winchell Department  
Fort Mills, Corregidor

My dear:

We had a nice month at Baguio and all came back enthusiastic about the place. B. J. had lots of children her age to play with, and had a good appetite and gained weight.

We drove up from Manila in our old Chevrolet. The garage man told me that Leaping Lena would not make the steep mountain grades, but she did nobly and we arrived without trouble. After what seemed to be endless miles of dusty roads lined with palm trees, villages of grass houses and rice fields we came suddenly, in the late afternoon, to the mountains that we had been watching all day. At once we went up along deep gorges, winding around sharp corners where we could look down hundreds of feet at mountain streams and across canyons at waterfalls.

The air became quite chilly and we could smell the fragrance of pines. The road was so steep and narrow that traffic was controlled by gates every mile or so. First they let a few cars go up one gate and then a few go down. As we came to a gate they would telephone ahead to the next gate and have the down-coming cars wait.

After a long hard climb—lots of it in low gear with the radiator boiling—we came to Camp John Hay and could look away down at the clouds below and the steep mountain sides. Camp John Hay is a beautiful place—a big rambling stucco hotel surrounded by shrubbery and a sunken garden. It looks out over a big valley. A lot like a resort place in the Adirondacks only the mountains are much bigger. They have a nice dining room, reading room and card room with big open fireplaces. A six-piece orchestra plays for meals and for dancing in the evening. Everyone puts on evening clothes for dinner. There are good tennis courts and a sporty 18 hole golf course.

A month at Baguio is one of the high spots of a tour over here. It does not count against leave. The daily routine was to eat a hearty breakfast about eight a. m., then play golf until eleven thirty or twelve, stopping at the Army Navy Club branch for a [redacted] \* or two before lunch. Luncheon at twelve thirty or one, then a short siesta and back to the golf links for

another round. Then dress for dinner and go to the club or to some one's quarters for [redacted] \*. Dinner about eight, then sit around the lounge by the fire place before going to the club for [redacted] \* and dancing

This routine was varied by trips to the Belgian Convent to see or buy the laces and silver work to the market place in Baguio, up Mt. Santo Tomas to the Mummy Cave where the Igorottes keep their smoke cured mummies, to one of the two gold mines, to the Dominican Monastery or the Weather Observatory, to the native barrios to see the women weaving cloth and baskets or up to the Bontoc Province.

We drove back to Manila for the New Year's Eve Celebration and stayed a couple of days in Manila.

Colonel B arrived on the last boat and has been made Provost Marshal and Post Inspector. The Provost Marshal here has the job of running the native barrios and handling about 5000 civilians (native).

We are all well. B has taken up golf and plays every morning. I play every day as that is the main form of amusement here and they are having tournaments all the time.

\* \* \* \* \*

(Agent could not learn lady's name.)

\*Editor's Note: Deleted out of respect for—well, just deleted.

Washington, D. C., January 12, 1931.

The Editor, The COAST ARTILLERY JOURNAL.

Dear Sir:

I wish to put forward the following idea in the matter of the organization of units of the Coast Artillery Association:

At present there exist throughout the world, wherever Coast Artillery units of the various components of our army find themselves, officers' clubs. In some places these clubs are formed of officers on a post and, other places, officers of National Guard regiments and again, officers of the Coast Artillery Reserves, the club being used as a means of meeting for inactive duty conferences. These units are all formed, and have as their membership, officers whose interest is keen.

Make each of these units a sub-chapter in the Coast Artillery Association and then in bigger cities, or possibly the Coast Artillery districts, form a chapter consisting of these sub-chapters within the area.

In this way, active organizations would be taken into the Coast Artillery Association without the effort of getting men to join something new, even though the joining is without cost and perhaps joining in name only.

I do not say that this is the proper way to form the units of our Association but I do say that it is one way that appears to me practical.

Very truly yours,

JOHN CASWELL.  
Capt., 913 C. A.

## BOOK REVIEWS

THE SPIRIT OF THE CHINESE REVOLUTION, Lowell Institute Lectures, 1930. By Arthur N. Holcombe. Alfred A. Knopf, New York. 5¼" x 7¾"; 185 pp.; \$2.00.

Professor Holcombe commences this work by challenging Kipling's familiar lines, "For East is East and West is West and never the twain shall meet." In China they met and therein lies the real spirit of the Chinese revolution, according to our author. Nearly all the principal leaders of China for the past twenty years have been either educated in western schools or have been affiliated in some way with western thought and institutions, while a surprising number are Christians. Imbued with the spirit of the West they are endeavoring to modernize their own country by grafting western progress on Chinese stock. Hence the Revolution.

Professor Holcombe stresses the part played by Sun Yat-sen, giving a detailed account of his activities and ideals. Dr. Sun was educated in America and in England, finally graduating in medicine in Hongkong. His wife was a graduate of an American college and his son went to the University of California. Dr. Sun believed that the "Revolution should proceed in three successive stages. The first was the stage of military operations; second, the stage of political tutelage; and the third, the stage of constitutional government." In order to accomplish the first stage Dr. Sun and the other leaders affiliated themselves with the Russian Bolsheviks, not because the Chinese were inclined to communism, but to obtain the aid of those experienced in revolutionary work. The Bolsheviks were fomenting a world revolution and this fitted the plans of the Chinese leaders, so far as their own country was concerned. When all China had been brought under subjection to the Kuomintang, or Nationalist Party, the Russians were to be forced out, being of no value in the subsequent stages. This programme was actually followed, Borodin, the Russian, and his followers being eliminated by a coup d'état undertaken by General Chiang Kai-shek in 1927.

The second period of Dr. Sun's plan is now in progress, a virtual dictatorship by the Kuomintang until such time as the masses are sufficiently educated in politics and the economic condition of the country justifies the establishment of a constitutional government.

Chiang Kai-shek—whose conversion to Christianity was recently noted in the press—is now the man of the hour in China although Professor Holcombe is still uncertain whether "he is the man to transform the government from a military into a pacific dictatorship," possibly he is too essentially a military leader, it may require a civilian, such as T. V. Soong or C. T. Wang, to complete the second stage of the programme.

Soong, the Minister of Finance at Nanking, is a Christian and a graduate of Harvard. Most of the important positions in his bureau are filled with Harvard men. Soong took high rank in his class and was employed in a banking house in New York after graduation. One of his sisters is the widow of Sun Yat-sen while another is the wife of Chiang Kai-shek.

Wang is the son of an Episcopal minister and a graduate of Yale. He was general secretary of the Chinese Y. M. C. A. before the Revolution and is now Minister of Foreign Affairs and one of the strongest men in the Government.

The most important outsider is Marshal Feng Yuxiang, the Christian general, a thorn in the side of the Nanking authorities. Born a coolie, Feng has advanced by sheer merit but is still largely an enigma. He is often accused of communism and his adherence to Christianity is doubted. He is a most unusual general as Professor Holcombe says that he will not have any man in his army who smokes, drinks or gambles. Although personally acquainted with Feng our author is by no means certain of the part he will play in future events, "he may yet prove to be New China's strongest man and if he should he will enliven the pages of history with a career which for picturesqueness and originality will bear comparison with the most romantic."

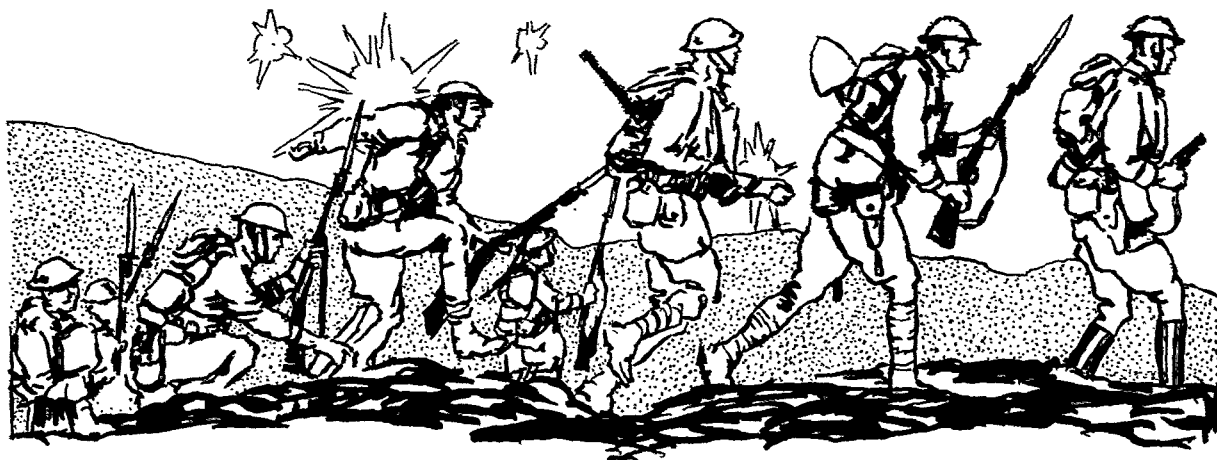
Professor Holcombe ventures no prophecy regarding the length of time it will take to educate the Chinese for self-government but he has no doubt of the ultimate success of Dr. Sun's three-stage programme, "the outlook for the rehabilitation of China, if one does not take too short a view of the political scene, is favorable." This is his final verdict in a book well worth reading.

R. E. W.

== == == ==

SOLDIERS MARCH! by Theodore Fredenburgh. 314 pp. New York. Harcourt, Brace and Company. \$2.00.

The American artillery of the A. E. F. finally has a war story of its very own, and it's a good one. Through a full length book we follow the adventures of Top Sergeant Zorn of the 101st Field Artillery, 26th Division, that group of Yanks who beat all the other National Guard divisions across to the big show. This narrative sticks closer to the true events and the reactions of the soldiers than any other book we have read. We see the exploding terrain from the eye of an observer; we patch telephone lines with a signalman; we fire the 75's with the gunners; we blaspheme recalcitrant mules with the drivers; we boss the troops with the top sergeant. The characterization is excellent as the meticulous idealist evolves into a hardboiled non-com under the environment of war; and would that all batteries had a top skipper as good as Zorn.



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The narrative is not hampered by any definite plot, nor hindered by an unnecessary love theme nor happy ending. The events of war are shown as they happen, the leave area, the long dreary march in the incessant rain, the front line action in offense and defense. The prejudices of the militiaman for the martinet regular officer, and of the volunteer for the draftee are finely drawn, of course always to the glorification of the National Guard.

We highly recommend this story. There is something in it for every soldier and ex-soldier; both for improvement and entertainment.

E. W. T.

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DIZIONARIO MILITARE (Military Dictionary) Part I, German-Italian, by General Roberto Segre, Royal Italian Ministry of War; State Polygraphic Institute, Rome. 426 quarto pages. Price, Lire 100. (Postage included).

As German war records become available to the foreign students of World War history, the need of an up-to-date military dictionary of the German language becomes more and more evident. The author has solved the problem for Italian military historians and students. General Segre's excellent compilation contains about 50,000 German military technical terms and abbreviations and their Italian equivalents. They include expressions peculiar to the armies of Germany, Austria, and Switzerland. The practical value of the dictionary is greatly enhanced by the skillful explanatory definition of German terms for which the Italian language possesses no exact equivalent.

Part II, Italian-German, still remains to be published.

This excellent piece of work should prove a valuable guide in the preparation of a similar German-English dictionary. Orders of the Royal Italian Ministry of War designate this dictionary an official publication.

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BABER—FIRST OF THE MOGULS, by Fernand Grenard. Translated and adapted by Homer White and Richard Glaenger. Robert M. McBride & Co., New York, 1930. 5¾" x 8¾"; 253 pp.; 11 ills. \$3.50.

Four hundred years ago there lived in Central Asia one of the great men of history, but one whose name even, not to mention his deeds, is almost unknown to the western world, therefore this book by M. Grenard is most welcome.

This comparative ignorance of Asiatic history is largely due to the peculiar political conditions which existed there at that time, conditions which have had no parallel in European annals since the barbarian migrations. There was no such thing as nationality, nor can we say that the political divisions were tribal, rather men followed a leader who could assure them of booty, while the leaders were always looking for new fields to conquer. The result was a continual changing of boundaries, of chieftains and of living conditions in general, making a most unstable condition, difficult for an outsider to understand.

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Among the leaders of the period the subject of this biography shines forth, both as an exceptionally able commander and as a supreme example of the fickleness of Fortune. Baber (an assumed name, the Turkish for "panther") was a descendant of Genghis Khan and Tamerlane, having both Mongol and Turkish blood in his veins. At the age of eleven his father's death left him lord of the small mountainous province of Ferghana, in what is now south-eastern Turkestan. From the very first he seems to have had the idea of empire, Samarcand, Tamerlane's old capital, being the special object of his desires and at the age of fifteen he captured the city, only to lose it the following year. Three times he conquered it and three times he was compelled to give it up. His patrimony of Ferghana was soon lost and Baber became an outcast without lands or friends. However he never despaired and the unsettled conditions of the country soon gave an opportunity for acquiring another province, from which he was in time ejected. Thus he continued, alternately winning and losing; from an Oriental despot he became a fugitive in hiding until the next opportunity arose, perhaps hundreds of miles away. In this manner he was, at one time or another, lord of nearly every province in Persia and Turkestan; verily the vicissitudes of Fortune which he experienced are not excelled in history, giving possibilities for a most entertaining biography, of which M. Grenard has taken full advantage.

Eventually the greater part of Afghanistan fell under Baber's control and from Kabul he invaded India in 1525, defeating the Sultan of Delhi in one of the most complete victories on record. Thus commenced the great Mogul Empire, which lasted for over three hundred years.

M. Grenard's story shows Baber to have been one of the few men with a native military genius. At the age of fourteen he was an accomplished leader and before he was twenty-one he had conquered a territory larger than England. His passage of the Hindu Kush mountains in the dead of winter was a feat unsurpassed by Napoleon and Hannibal in their famous expeditions across the Alps. Wonderful qualities of leadership were required to hold together a comparatively undisciplined army while crossing mountains in a blizzard with snow three feet deep, particularly when it is realized that the difficulties of the mountains were such that four miles was a good day's march when the weather was favorable. Such was Baber's passage of the Hindu Kush.

So kaleidoscopic was the history of Central Asia in Baber's time that M. Grenard is to be congratulated on his success in untangling the skein of events and in placing before us an interesting and intelligible biography of the first Great Mogul.

The illustrations are all reproductions of contemporary prints and miniatures of Persian and Turkish origin, exemplifying the Oriental character of the theme, while a complete bibliography forms a fitting conclusion to an admirable work.

R. E. W.

A CHATEAU AT THE FRONT, 1914-18, By the Marquise de Foucault. Houghton Mifflin Co., Boston. 1931. 338 pages. \$4.00.

The Marquise had just finished moving into her newly bought Château of Pronleroy near Compeigne when the war started. Sticking to her home, she saw the Germans sweep by on their march toward Paris. For twenty days the château was behind the German lines—then the Marquise and her daughters saw the invaders withdraw to the Aisne and Pronleroy skip the rope back behind the French lines, but not far enough to be out of earshot of gunfire, and hostile airplanes. Threat of capture and danger of destruction by long range heavy artillery fire were constant until August 24, 1918, when Pronleroy, as the author expressed it "finished its role of 'Château at the Front'."

The Marquise played hostess to an unending stream of staff and line groups, enlisted men, and refugees. Among her most distinguished guests were General Mangin and his staff. From her château he launched on July 11, 1918, the counterattack of Mery-Courcelles.

An interesting and fascinating personal narrative.

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THE LONG ARM OF LEE, or "The History of the Artillery of the Army of Northern Virginia," With a brief account of the Confederate Bureau of Ordnance, by Jennings Cropper Wise. Illustrated. Two Volumes. Cloth. 995 pages. J. P. Bell Company, Inc., Lynchburg, Virginia. 1915.

This book bears out its title and therefore occupies a valuable and distinct place in the literature of the Civil War. Part I of Volume I, consisting of four chapters, gives an excellent narrative of the Confederate Bureau of Ordnance. The reviewer does not know of any other readily available account of this remarkably efficient organization which equipped the armies of the Confederacy throughout the war.

The remaining part of Volume I, and Volume II give a most readable account of the organization, expansion and unusual service of Lee's artillery. The fine character sketches, the intimate details, and the affectionate admiration with which the author carries you on from page to page through the trying years of war, establish the fact that the author is a writer whose work people delight to read. Colonel Wise pays a well-deserved tribute to Virginia Military Institute; he gives praise where it is due, and cites facts from which the reader may draw critical deductions. A sufficient number of general annotations add to the value of the book which is also well-served by a carefully prepared index.

Every artillery man should read the book, if he would know how leaders like Stonewall Jackson, Pendleton, Long, Alexander, Walker, and Pegram may inspire the artillery of an army to gain the profound reliance of infantrymen in battle. Officers of other arms will do well to read the book, so that they, too, may know how to appreciate and expect real service from the sister arm that can help in all phases of battle. It is a good book that will live.

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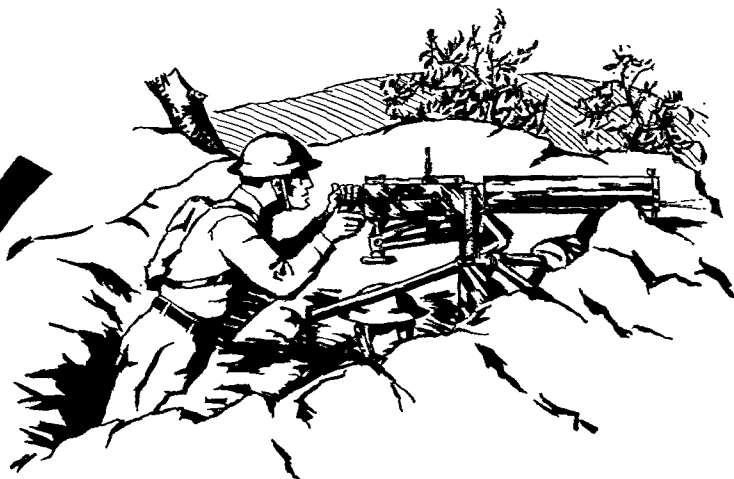
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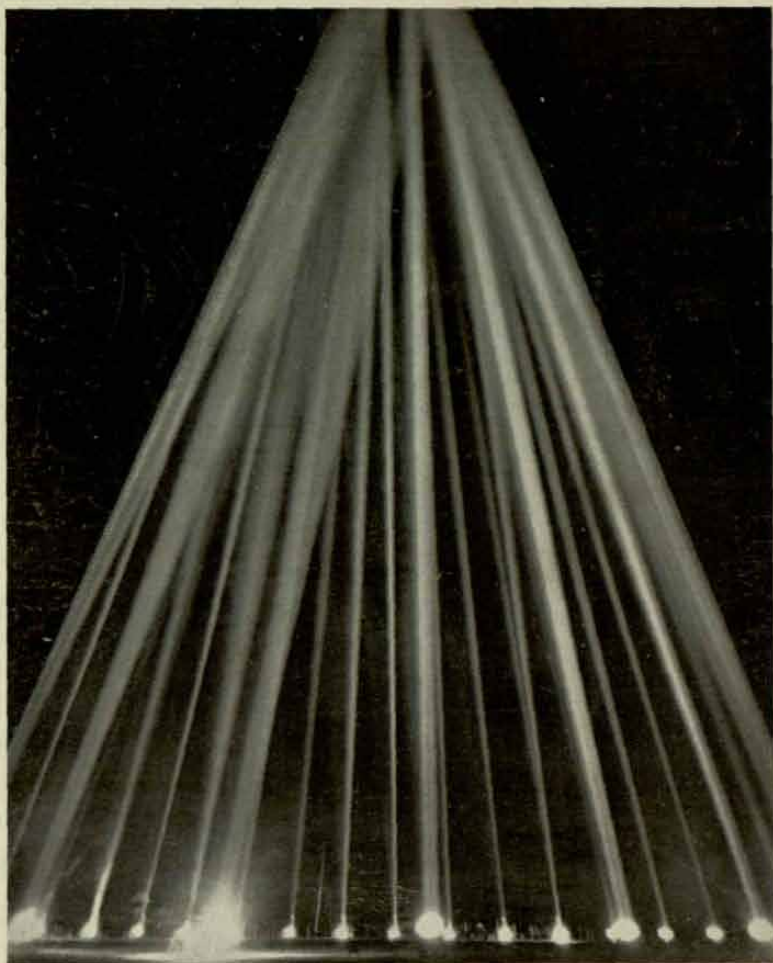
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